US010909639B2

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Lobb et al.

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(45) **Date of Patent: *Feb. 2, 2021**

(54) **ACCELERATION OF SOCIAL INTERACTIONS**

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(73) Assignee: **Microsoft Technology Licensing, LLC**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 27 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **16/241,561**

(22) Filed: **Jan. 7, 2019**

(65) **Prior Publication Data**

US 2019/0139157 A1 May 9, 2019

Related U.S. Application Data

(63) Continuation of application No. 12/821,984, filed on Jun. 23, 2010, now Pat. No. 10,198,775.

(51) **Int. Cl.**
G06F 15/16 (2006.01)
G06Q 50/00 (2012.01)

(52) **U.S. Cl.**
CPC ***G06Q 50/01*** (2013.01)

(58) **Field of Classification Search**
CPC H04L 67/306; H04L 67/18; H04L 67/22; H04L 51/00; H04L 51/32; H04L 51/20; G06Q 50/01; G06Q 30/0259; G06Q 30/0255
USPC 709/204, 206
See application file for complete search history.

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2009/0319288 A1* 12/2009 Slaney G06Q 10/10 705/1.1

* cited by examiner

Primary Examiner — Wing F Chan
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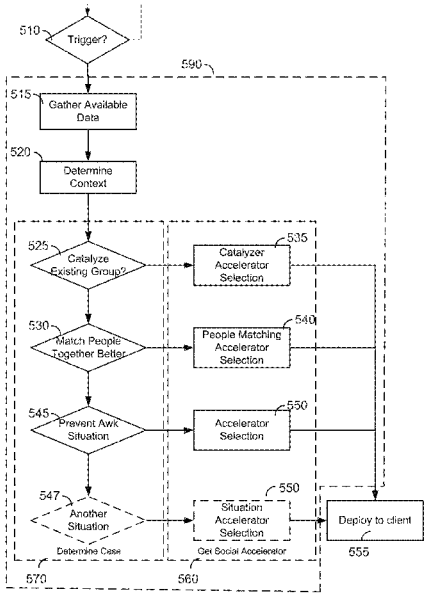
(74) *Attorney, Agent, or Firm* — Newport IP, LLC; Mike R. Cicero

(57) **ABSTRACT**

A system and method for facilitating social interactions between different individuals. Information available about each of the individuals engaged in a social interaction is used to provide a "social accelerator" for an interaction between the individuals. Social interactions are improved or accelerated by aggregating available information about individuals participating in an information system. When an interaction event trigger is received, the context of context for possible social interaction between the users around the trigger event is determined. A social accelerator is selected from available interest information common to the participating user and the target user, and the social accelerator is provided to one of the individuals.

20 Claims, 22 Drawing Sheets



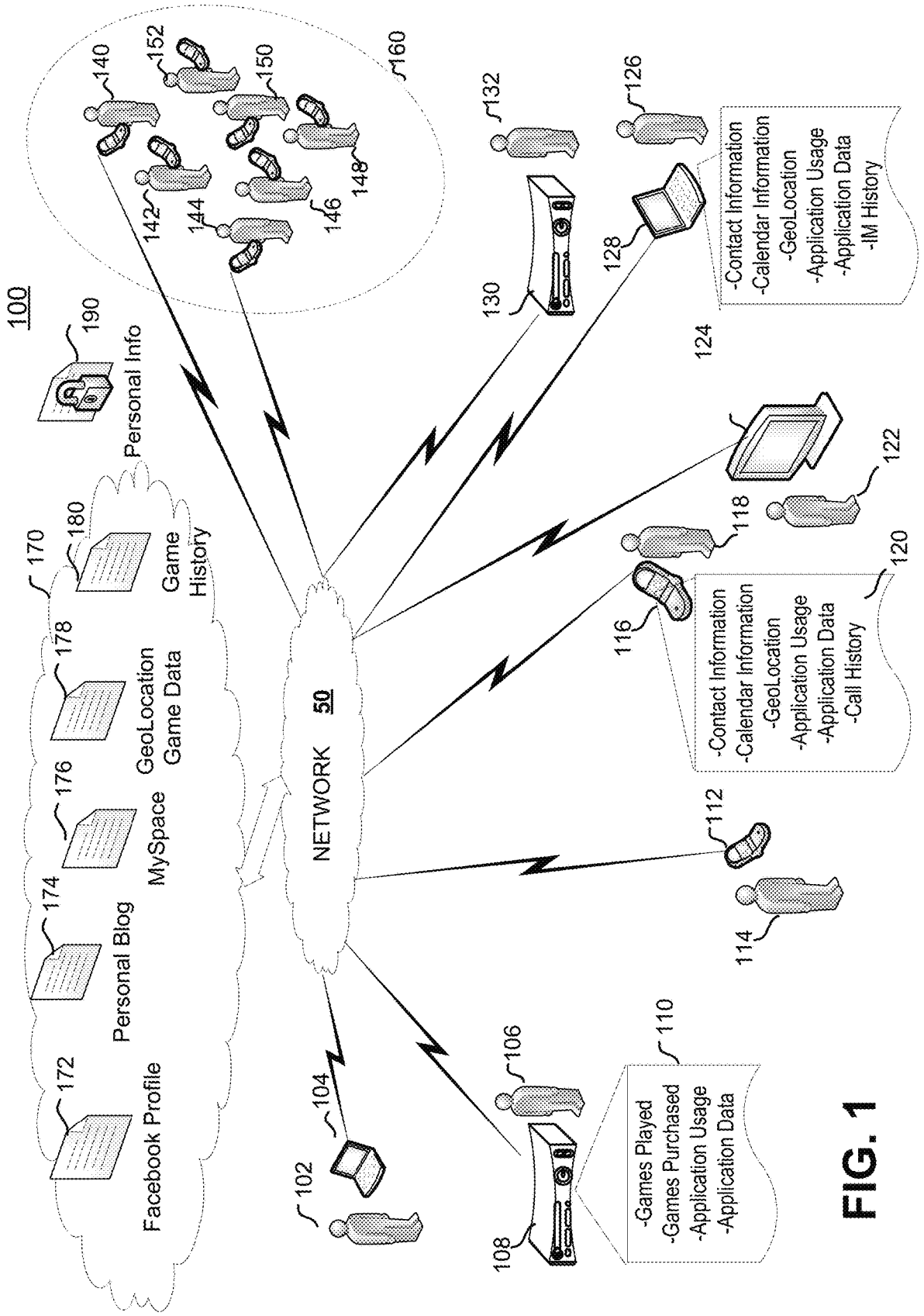

100
NETWORK 50
160
140
142
144
146
148
150
152
190
Personal Info
170
180
Game History
178
GeoLocation Game Data
176
MySpace
174
Personal Blog
172
Facebook Profile
102
104
106
108
-Games Played
-Games Purchased
-Application Usage
-Application Data
110
112
114
116
118
120
-Contact Information
-Calendar Information
-GeoLocation
-Application Usage
-Application Data
-Call History
122
124
126
128
130
132
-Contact Information
-Calendar Information
-GeoLocation
-Application Usage
-Application Data
-IM History

FIG. 1

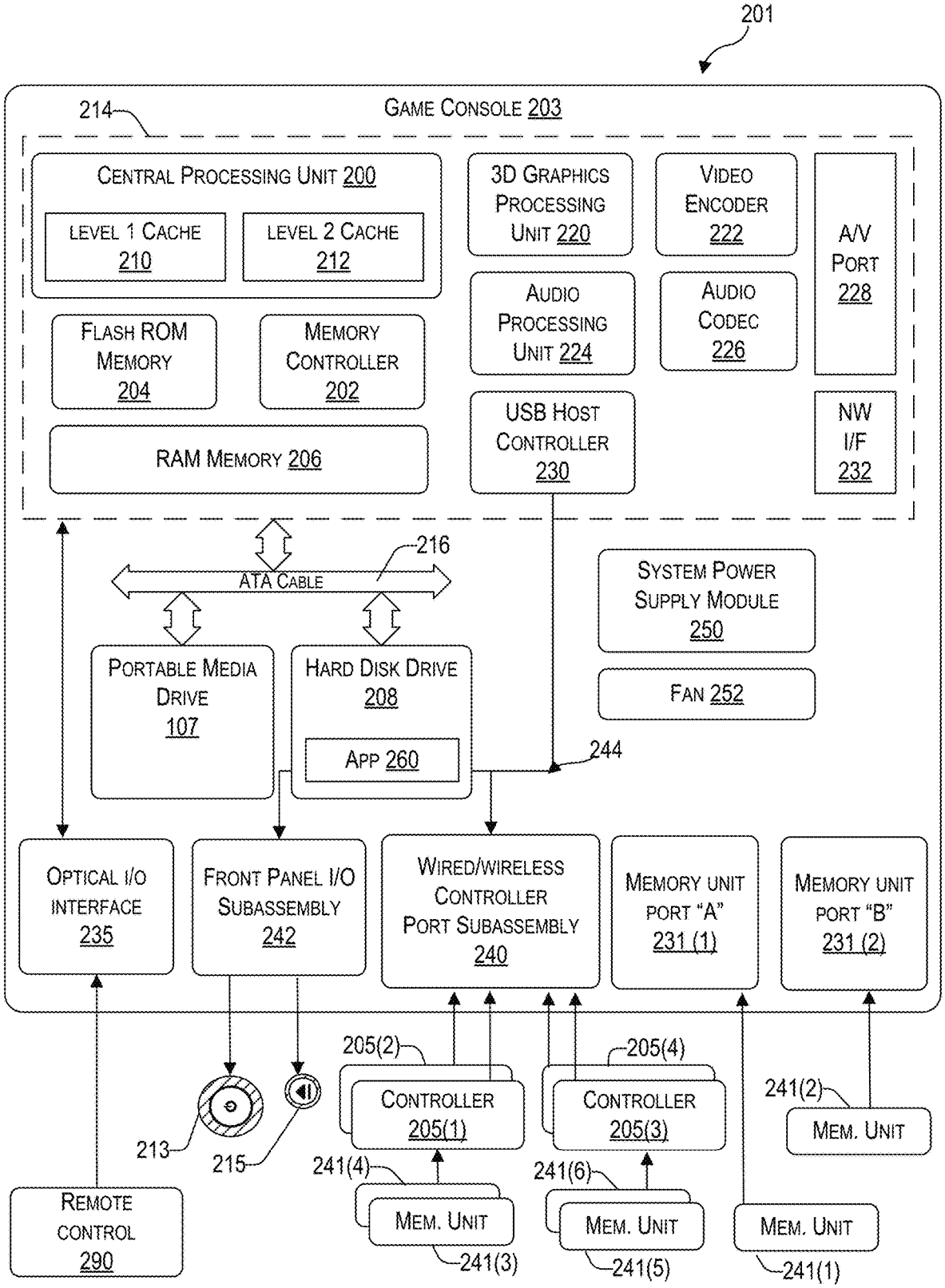
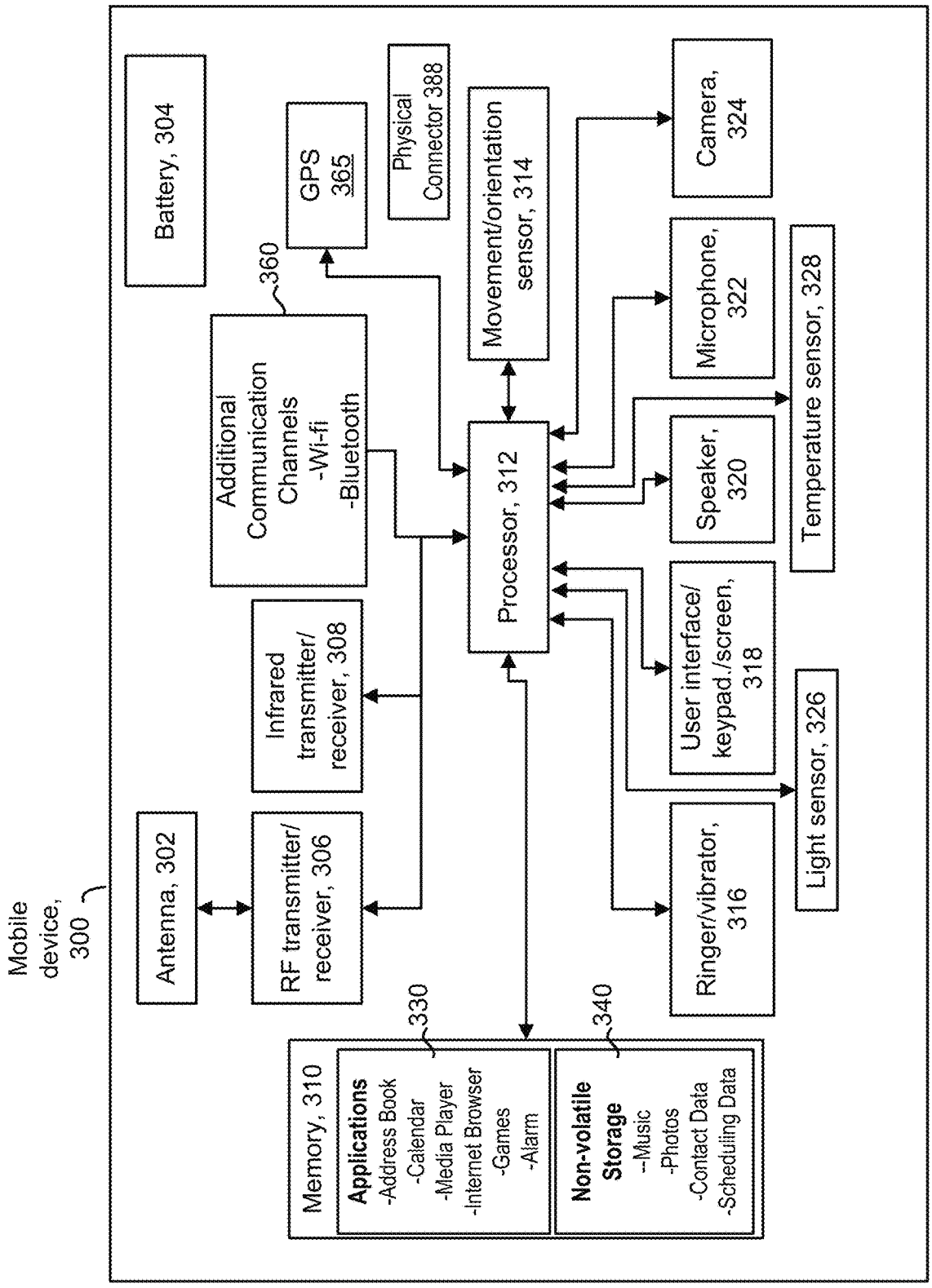

201
214
GAME CONSOLE 203
CENTRAL PROCESSING UNIT 200
LEVEL 1 CACHE 210
LEVEL 2 CACHE 212
3D GRAPHICS PROCESSING UNIT 220
VIDEO ENCODER 222
A/V PORT 228
AUDIO PROCESSING UNIT 224
AUDIO CODEC 226
FLASH ROM MEMORY 204
MEMORY CONTROLLER 202
USB HOST CONTROLLER 230
NW I/F 232
RAM MEMORY 206
216
ATA CABLE
SYSTEM POWER SUPPLY MODULE 250
FAN 252
PORTABLE MEDIA DRIVE 107
HARD DISK DRIVE 208
APP 260
244
OPTICAL I/O INTERFACE 235
FRONT PANEL I/O SUBASSEMBLY 242
WIRED/WIRELESS CONTROLLER PORT SUBASSEMBLY 240
MEMORY UNIT PORT "A" 231 (1)
MEMORY UNIT PORT "B" 231 (2)
205(2)
205(4)
CONTROLLER 205(1)
CONTROLLER 205(3)
241(2)
MEM. UNIT
213
215
241(4)
241(6)
REMOTE CONTROL 290
MEM. UNIT
MEM. UNIT
MEM. UNIT
241(3)
241(5)
241(1)

FIG. 2

FIG. 3


Mobile device, 300
Antenna, 302
RF transmitter/ receiver, 306
Infrared transmitter/ receiver, 308
Additional Communication Channels -Wi-fi -Bluetooth
360
GPS 365
Physical Connector 388
Battery, 304
Movement/orientation sensor, 314
Camera, 324
Microphone, 322
Temperature sensor, 328
Processor, 312
Speaker, 320
User interface/ keypad./screen, 318
Ringer/vibrator, 316
Light sensor, 326
Memory, 310
Applications -Address Book -Calendar -Media Player -Internet Browser -Games -Alarm
330
Non-volatile Storage --Music -Photos -Contact Data -Scheduling Data
340

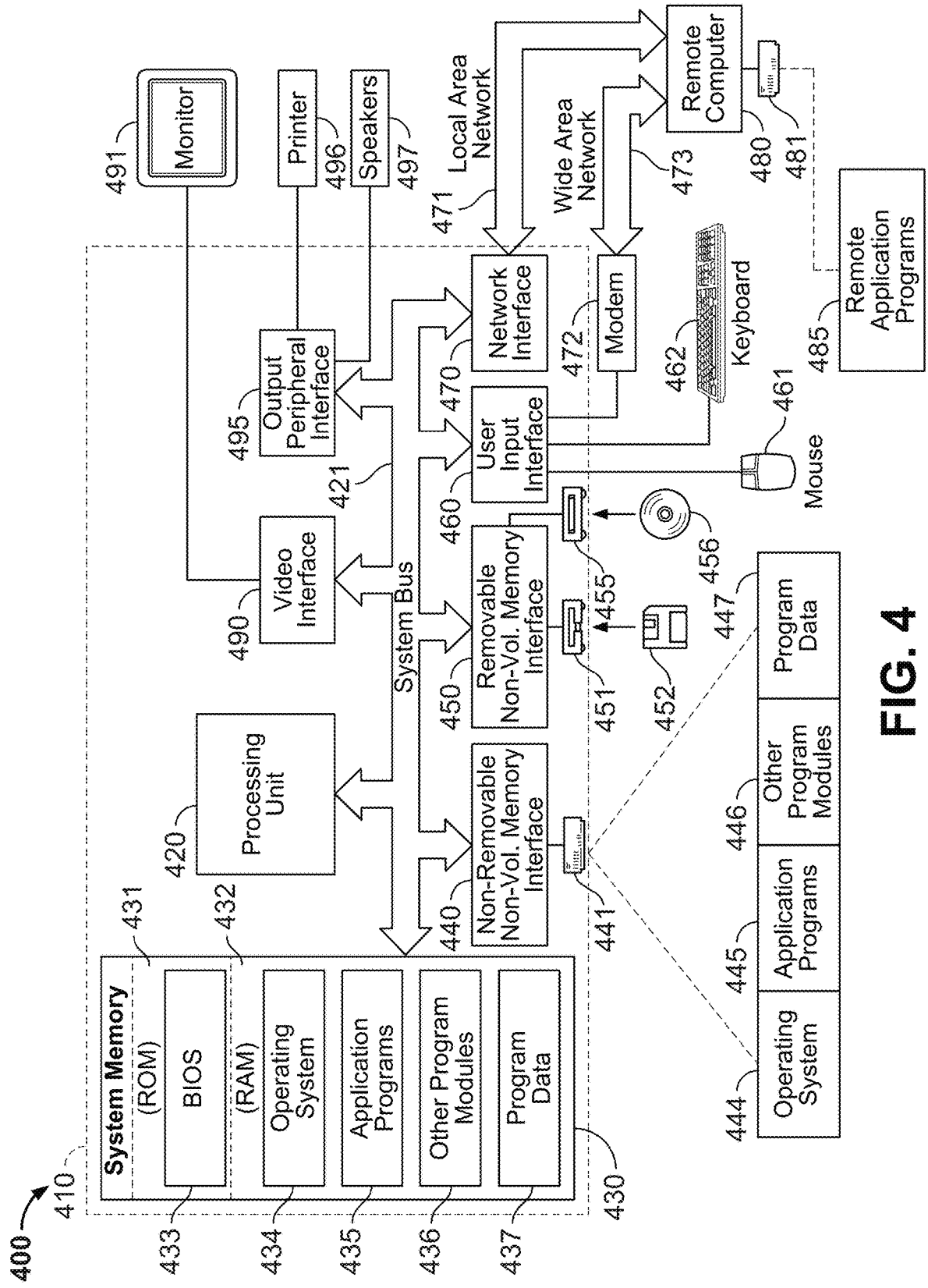

400
410
System Memory
(ROM)
BIOS
(RAM)
Operating System
Application Programs
Other Program Modules
Program Data
431
432
433
434
435
436
437
430
420
Processing Unit
421
System Bus
490
Video Interface
491
Monitor
495
Output Peripheral Interface
496
Printer
497
Speakers
440
Non-Removable Non-Vol. Memory Interface
441
450
Removable Non-Vol. Memory Interface
451
452
455
456
460
User Input Interface
461
Mouse
462
Keyboard
470
Network Interface
471
Local Area Network
472
Modem
473
Wide Area Network
480
Remote Computer
481
485
Remote Application Programs
444
Operating System
445
Application Programs
446
Other Program Modules
447
Program Data

FIG. 4

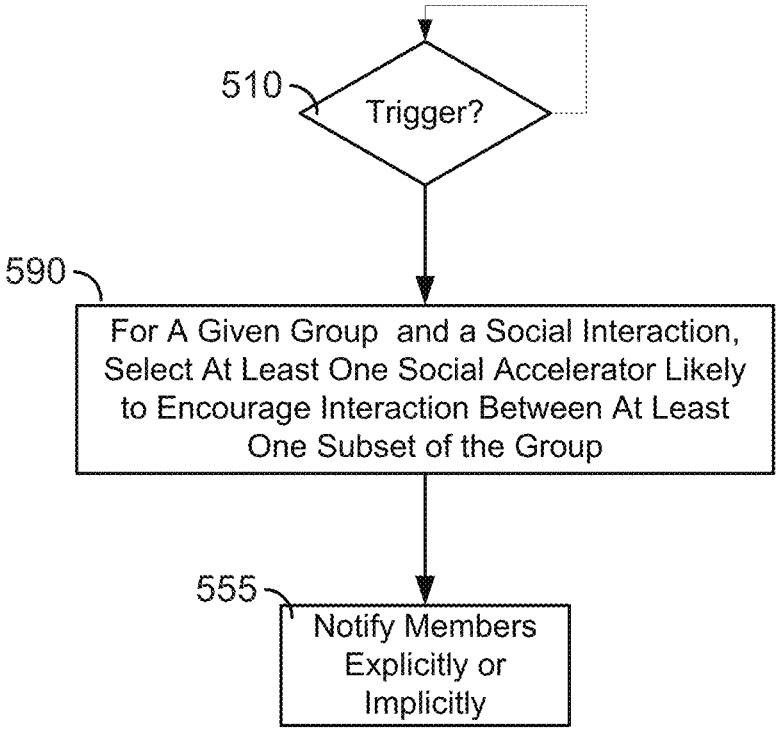
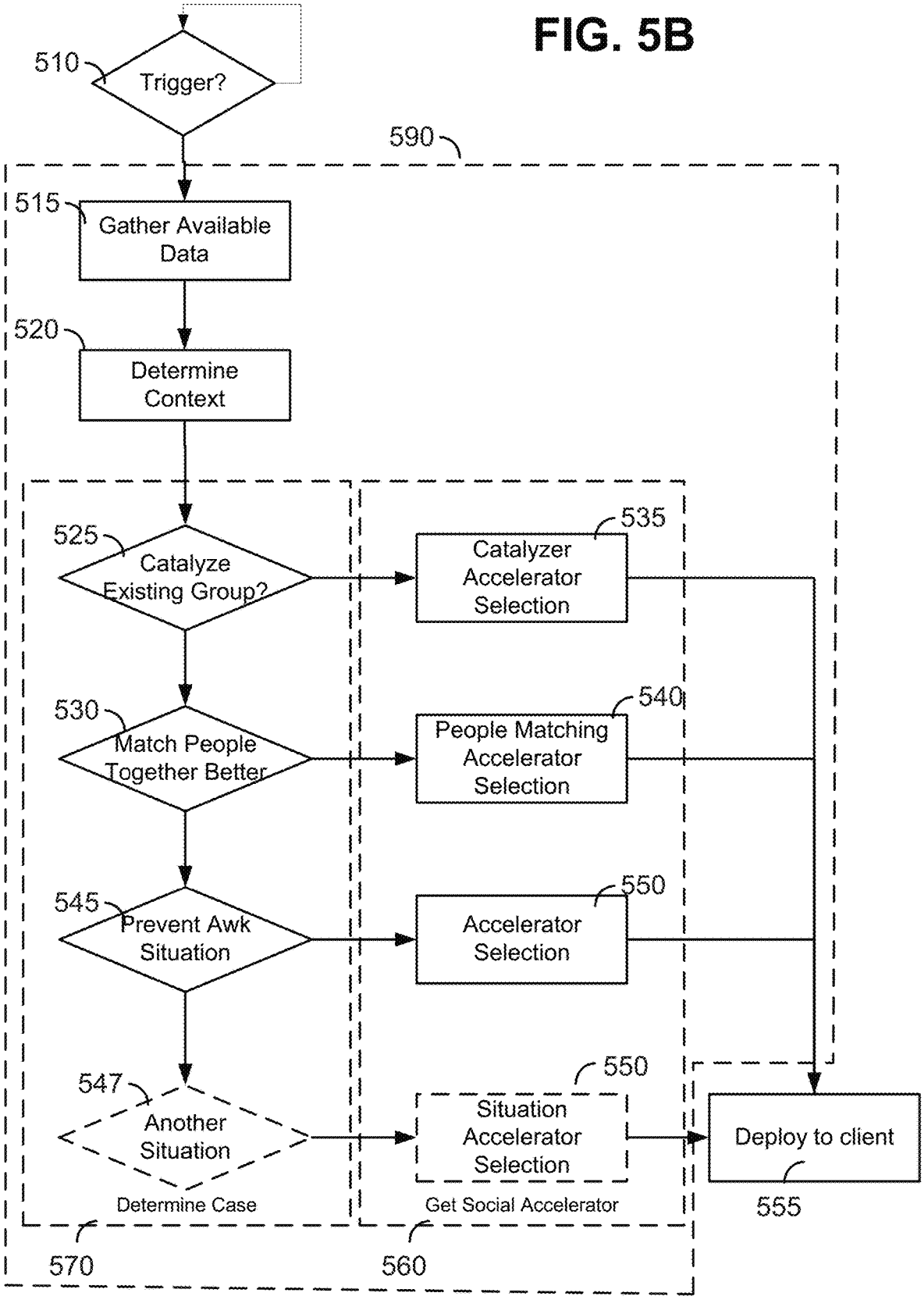

510
Trigger?
590
For A Given Group and a Social Interaction, Select At Least One Social Accelerator Likely to Encourage Interaction Between At Least One Subset of the Group
555
Notify Members Explicitly or Implicitly

FIG. 5A

FIG. 5B


510
Trigger?
590
515
Gather Available Data
520
Determine Context
525
Catalyze Existing Group?
535
Catalyzer Accelerator Selection
530
Match People Together Better
540
People Matching Accelerator Selection
545
Prevent Awk Situation
550
Accelerator Selection
547
Another Situation
550
Situation Accelerator Selection
Deploy to client
555
Determine Case
Get Social Accelerator
570
560

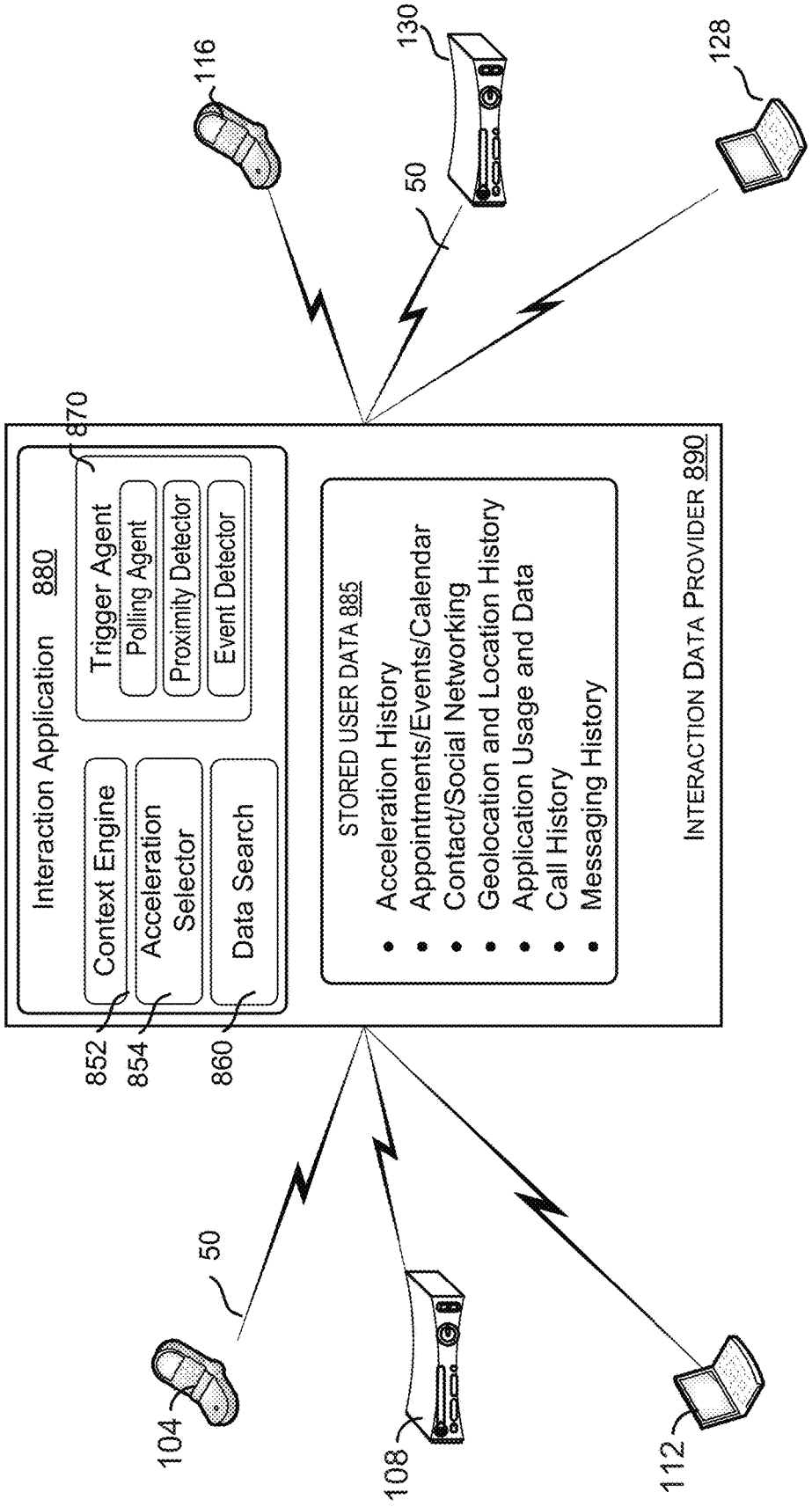

116
130
128
50
Interaction Application 880
870
Trigger Agent
Polling Agent
Proximity Detector
Event Detector
Context Engine
Acceleration Selector
Data Search
852
854
860
STORED USER DATA 885
Acceleration History
Appointments/Events/Calendar
Contact/Social Networking
Geolocation and Location History
Application Usage and Data
Call History
Messaging History
INTERACTION DATA PROVIDER 890
50
104
108
112

FIG. 6A

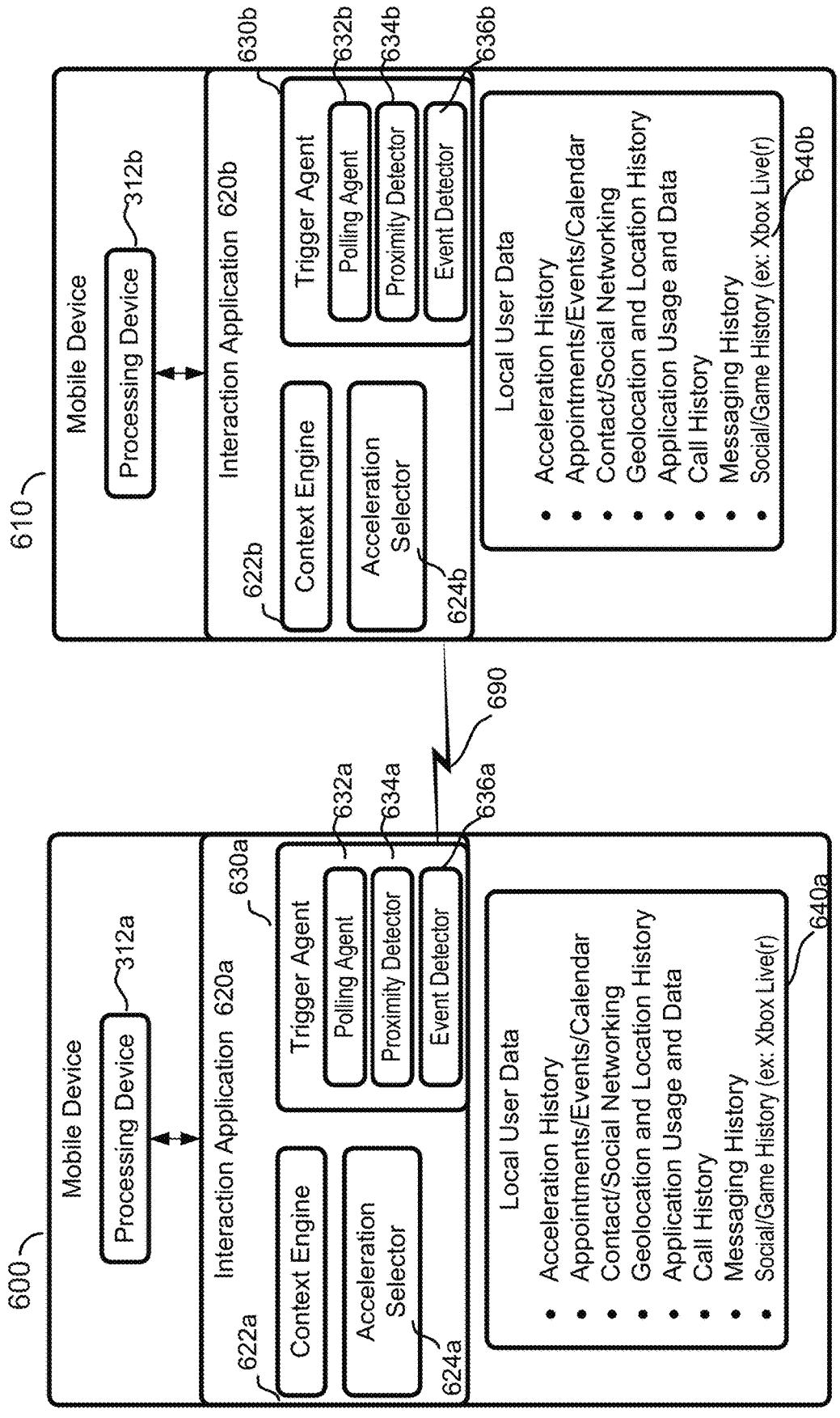

600
Mobile Device
Processing Device
312a
Interaction Application 620a
630a
Trigger Agent
Polling Agent
Proximity Detector
Event Detector
632a
634a
636a
Context Engine
Acceleration Selector
622a
624a
Local User Data
Acceleration History
Appointments/Events/Calendar
Contact/Social Networking
Geolocation and Location History
Application Usage and Data
Call History
Messaging History
Social/Game History (ex: Xbox Live(r)
640a
690
610
Mobile Device
Processing Device
312b
Interaction Application 620b
630b
Trigger Agent
Polling Agent
Proximity Detector
Event Detector
632b
634b
636b
Context Engine
Acceleration Selector
622b
624b
Local User Data
Acceleration History
Appointments/Events/Calendar
Contact/Social Networking
Geolocation and Location History
Application Usage and Data
Call History
Messaging History
Social/Game History (ex: Xbox Live(r)
640b

FIG. 6B

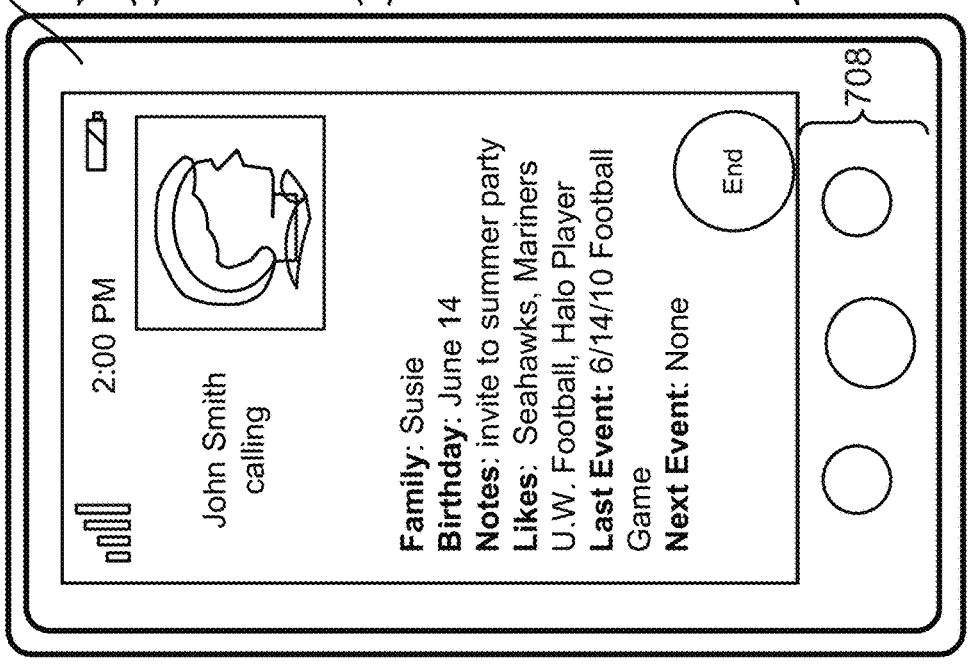

318a
702
704
706
708
2:00 PM
John Smith calling
Family: Susie
Birthday: June 14
Notes: invite to summer party
Likes: Seahawks, Mariners
U.W. Football, Halo Player
Last Event: 6/14/10 Football Game
Next Event: None
End

FIG. 7A

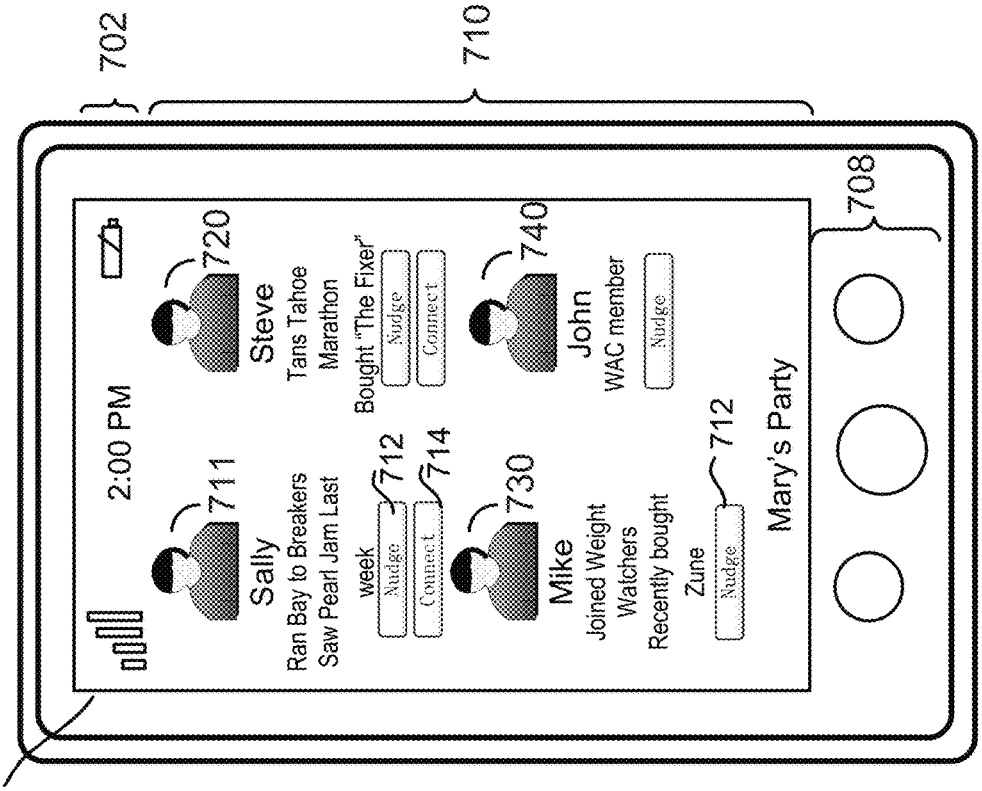

318a
702
710
708
2:00 PM
711
Sally
Ran Bay to Breakers
Saw Pearl Jam Last week
712
Nudge
714
Connect
730
Mike
Joined Weight Watchers
Recently bought Zune
712
Nudge
720
Steve
Tans Tahoe Marathon
Bought "The Fixer"
Nudge
Connect
740
John
WAC member
Nudge
Mary's Party

FIG. 7B

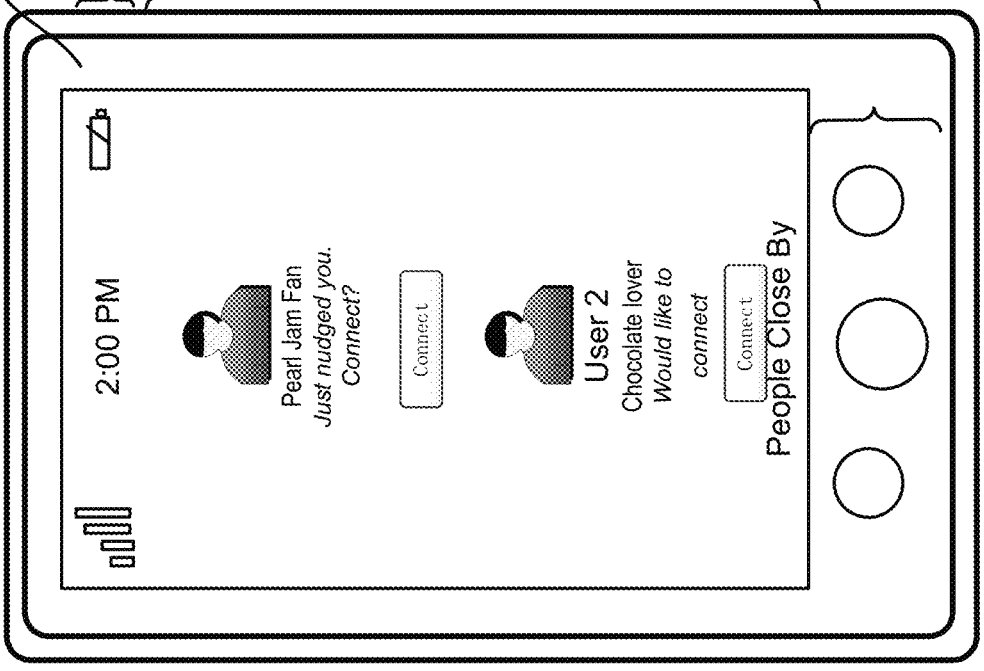

318a
702
710
2:00 PM
Pearl Jam Fan
Just nudged you.
Connect?
Connect
User 2
Chocolate lover
Would like to
connect
Connect
People Close By

FIG. 7C

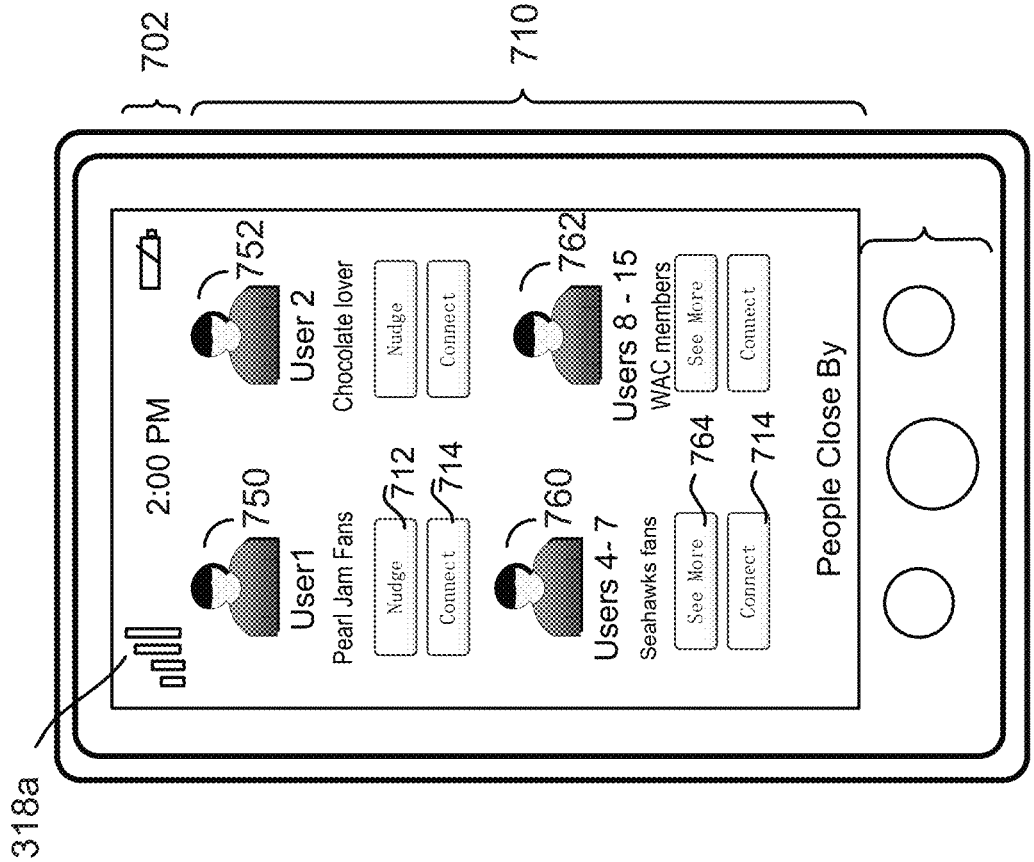

318a
702
710
2:00 PM
750
User1
Pearl Jam Fans
Nudge
712
Connect
714
752
User 2
Chocolate lover
Nudge
Connect
760
Users 4- 7
Seahawks fans
See More
764
Connect
714
762
Users 8 - 15
WAC members
See More
Connect
People Close By

FIG. 7D

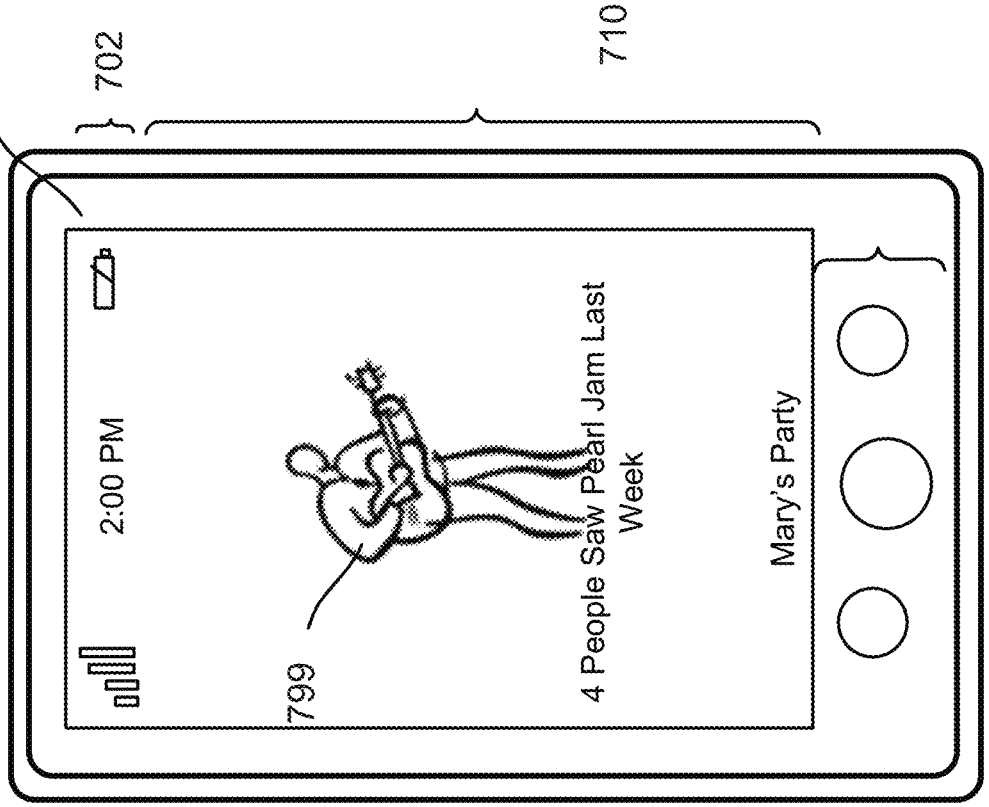

318a
702
710
2:00 PM
799
4 People Saw Pearl Jam Last Week
Mary's Party

FIG. 7F

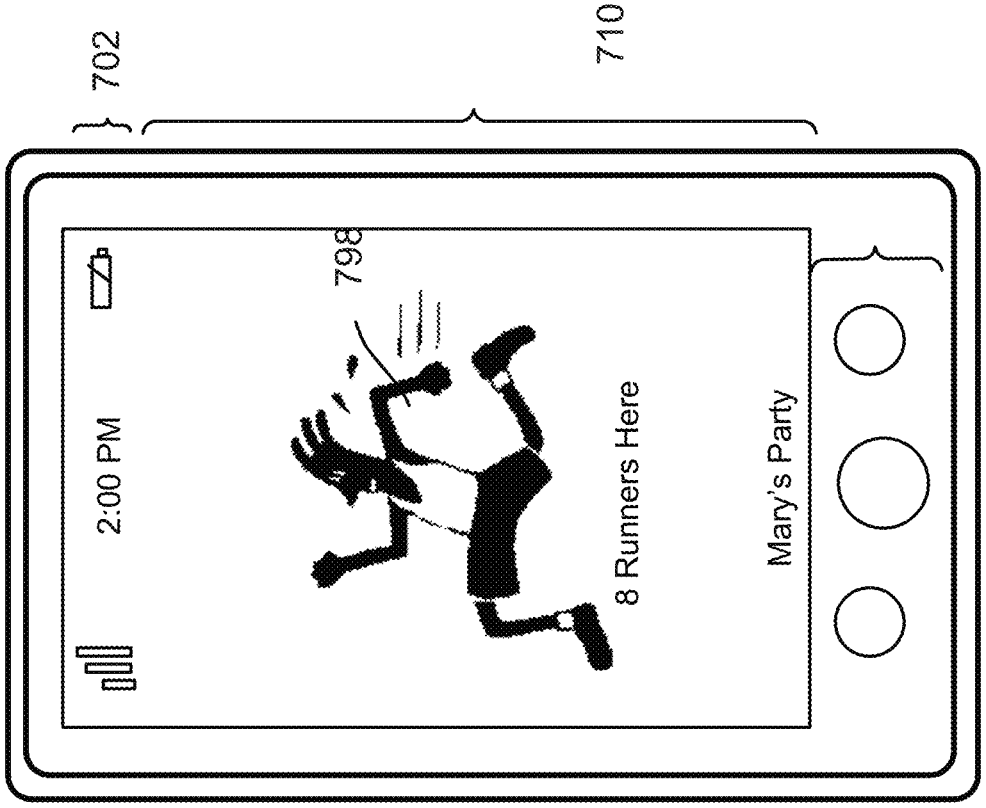

702
710
2:00 PM
798
8 Runners Here
Mary's Party

FIG. 7E

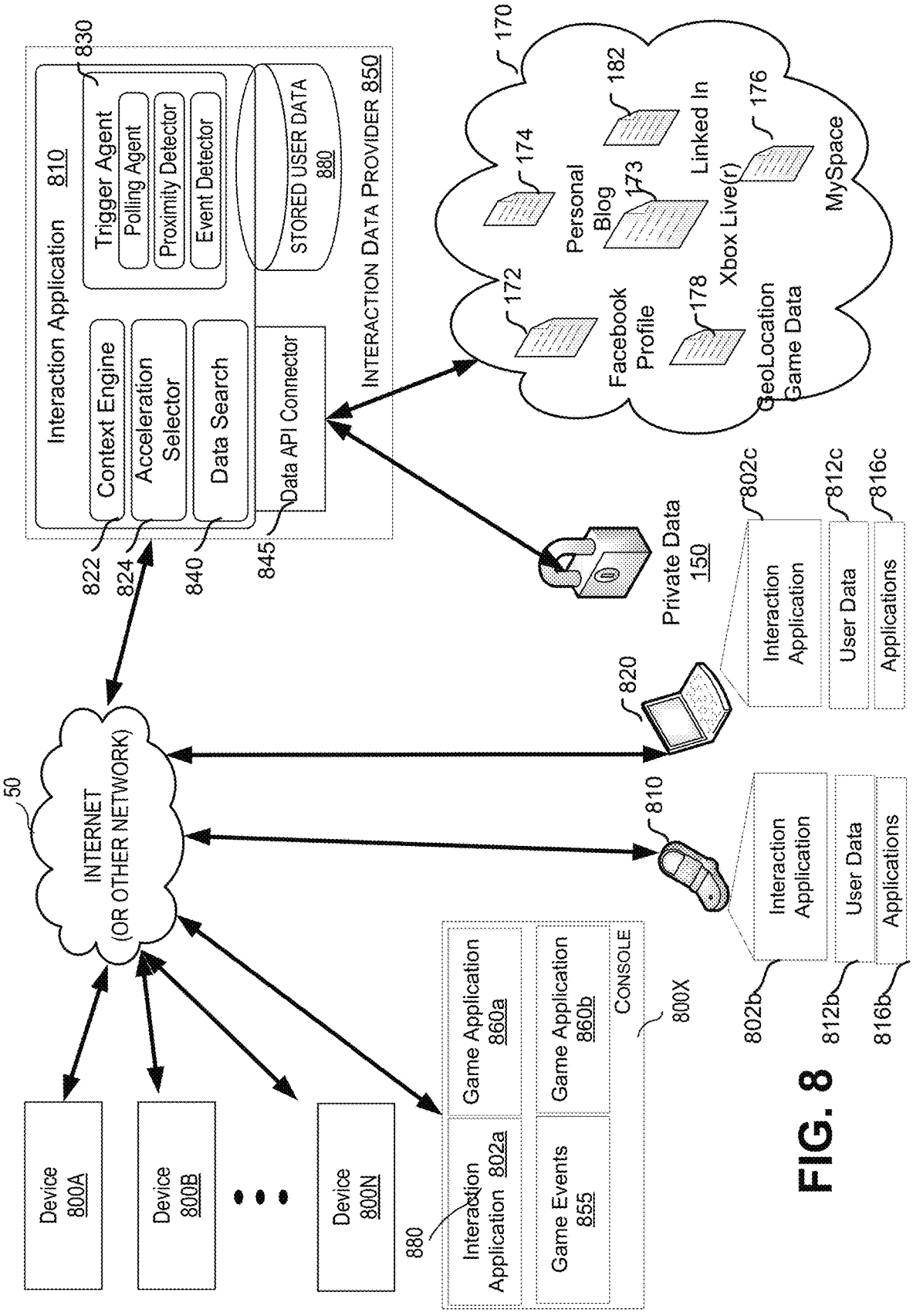

Interaction Application 810
Context Engine
Acceleration Selector
Data Search
Data API Connector
Trigger Agent
Polling Agent
Proximity Detector
Event Detector
STORED USER DATA 880
INTERACTION DATA PROVIDER 850
822
824
840
845
830
170
172
174
173
176
178
182
Facebook Profile
Personal Blog
Linked In
Xbox Live(r)
MySpace
GeoLocation Game Data
Private Data 150
INTERNET (OR OTHER NETWORK)
50
820
810
802c
812c
816c
802b
812b
816b
Interaction Application
User Data
Applications
Device 800A
Device 800B
Device 800N
Interaction Application 802a
Game Events 855
Game Application 860a
Game Application 860b
CONSOLE
800X
880

FIG. 8

FIG. 9

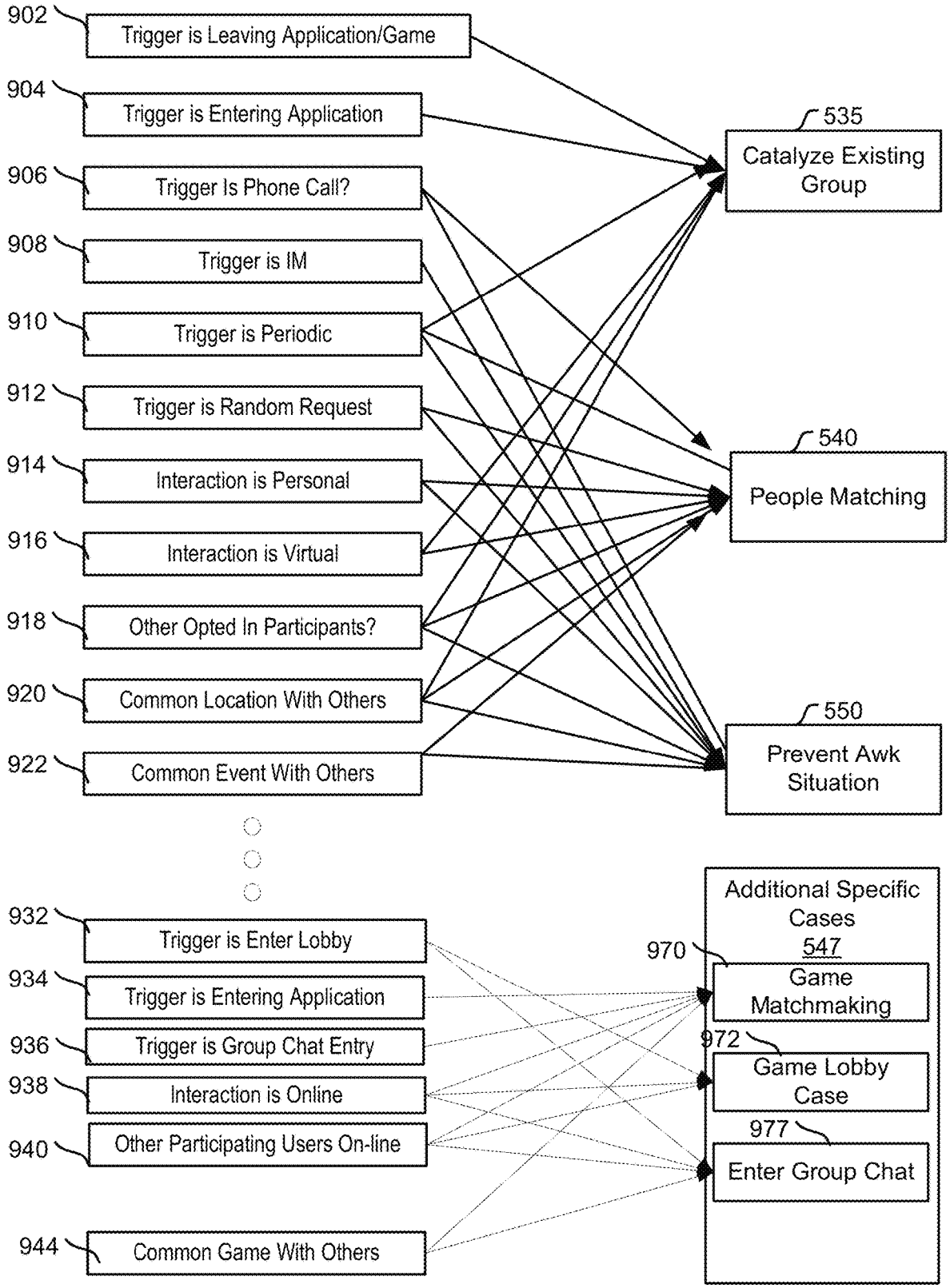

902
Trigger is Leaving Application/Game
904
Trigger is Entering Application
906
Trigger Is Phone Call?
908
Trigger is IM
910
Trigger is Periodic
912
Trigger is Random Request
914
Interaction is Personal
916
Interaction is Virtual
918
Other Opted In Participants?
920
Common Location With Others
922
Common Event With Others
535
Catalyze Existing Group
540
People Matching
550
Prevent Awk Situation
932
Trigger is Enter Lobby
934
Trigger is Entering Application
936
Trigger is Group Chat Entry
938
Interaction is Online
940
Other Participating Users On-line
944
Common Game With Others
Additional Specific Cases
547
970
Game Matchmaking
972
Game Lobby Case
977
Enter Group Chat

FIG. 10

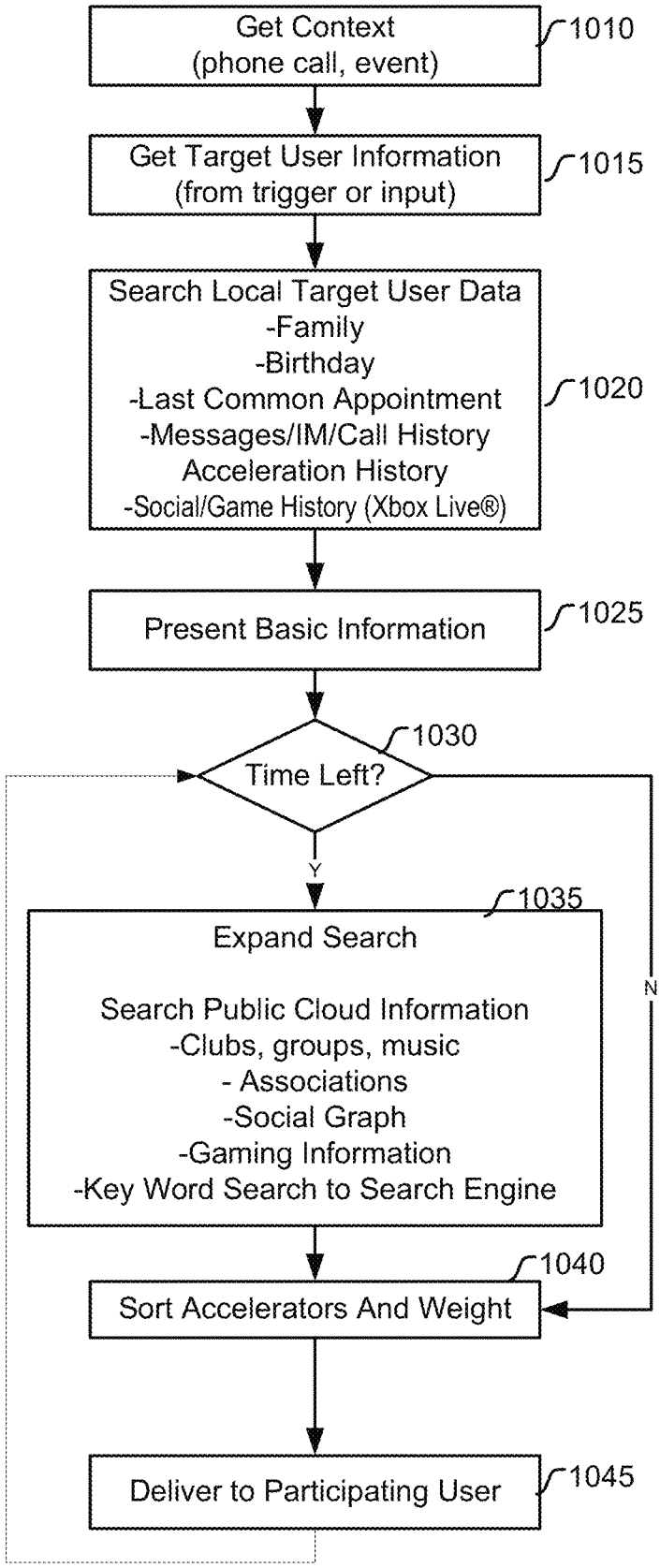
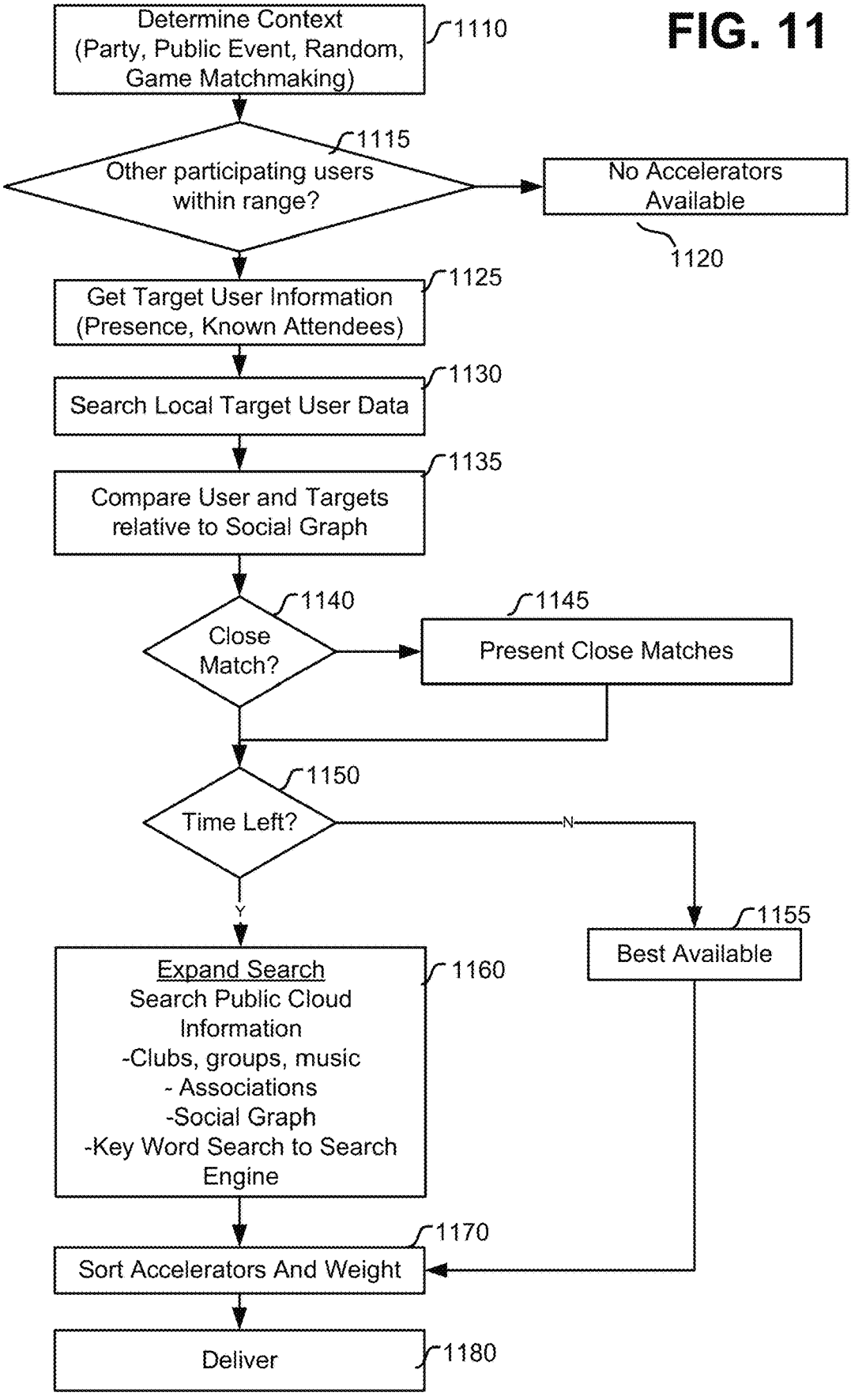

Get Context
(phone call, event)
1010
Get Target User Information
(from trigger or input)
1015
Search Local Target User Data
-Family
-Birthday
-Last Common Appointment
-Messages/IM/Call History
Acceleration History
-Social/Game History (Xbox Live®)
1020
Present Basic Information
1025
1030
Time Left?
Y
N
1035
Expand Search
Search Public Cloud Information
-Clubs, groups, music
- Associations
-Social Graph
-Gaming Information
-Key Word Search to Search Engine
1040
Sort Accelerators And Weight
Deliver to Participating User
1045

FIG. 11


Determine Context (Party, Public Event, Random, Game Matchmaking)
1110
Other participating users within range?
1115
No Accelerators Available
1120
Get Target User Information (Presence, Known Attendees)
1125
Search Local Target User Data
1130
Compare User and Targets relative to Social Graph
1135
Close Match?
1140
Present Close Matches
1145
Time Left?
1150
N
Y
Best Available
1155
Expand Search
Search Public Cloud Information
-Clubs, groups, music
- Associations
-Social Graph
-Key Word Search to Search Engine
1160
Sort Accelerators And Weight
1170
Deliver
1180

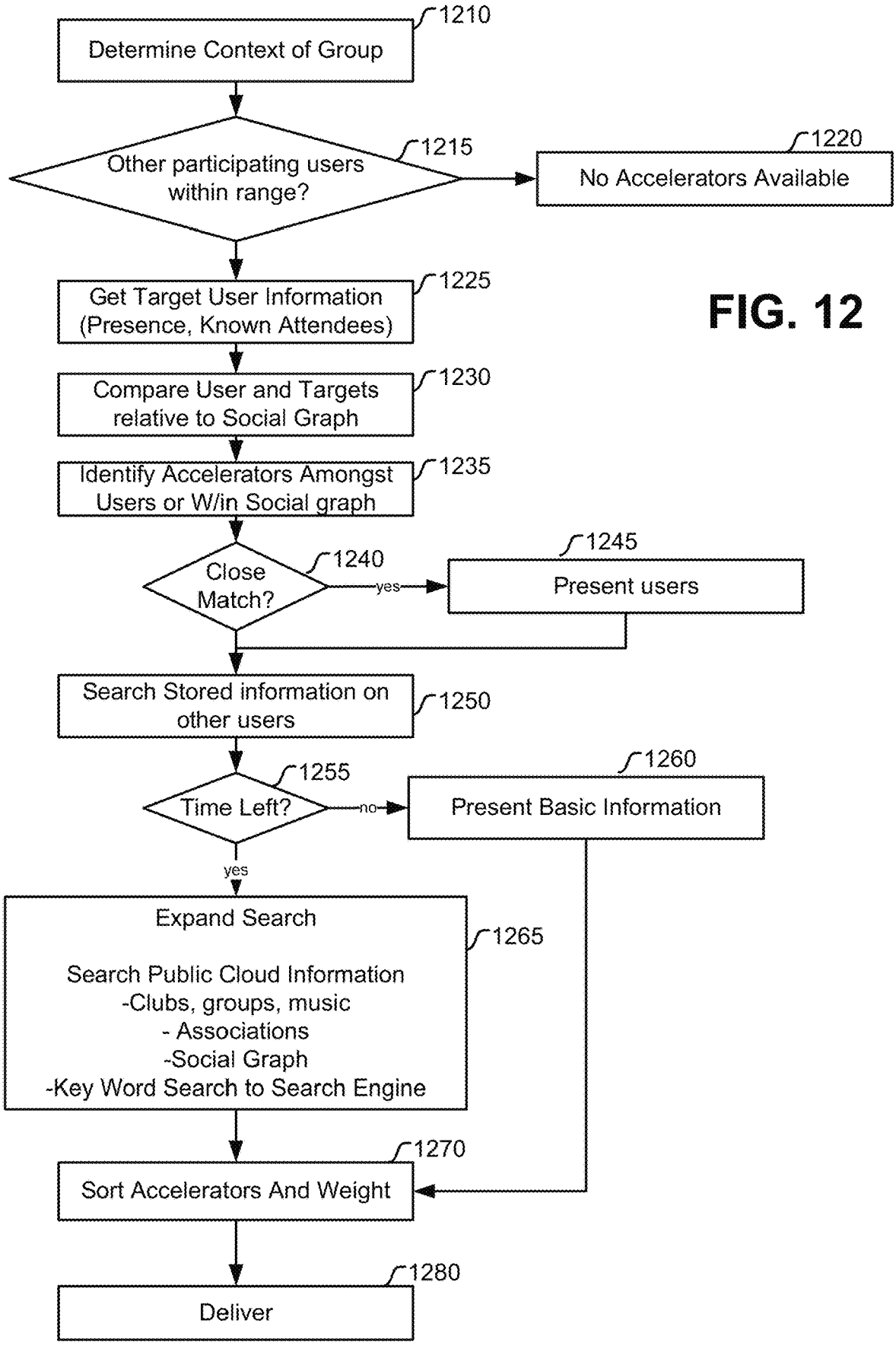

1210
Determine Context of Group
1215
Other participating users within range?
1220
No Accelerators Available
1225
Get Target User Information (Presence, Known Attendees)
1230
Compare User and Targets relative to Social Graph
1235
Identify Accelerators Amongst Users or W/in Social graph
1240
Close Match?
yes
1245
Present users
1250
Search Stored information on other users
1255
Time Left?
no
1260
Present Basic Information
yes
1265
Expand Search
Search Public Cloud Information
-Clubs, groups, music
- Associations
-Social Graph
-Key Word Search to Search Engine
1270
Sort Accelerators And Weight
1280
Deliver

FIG. 12

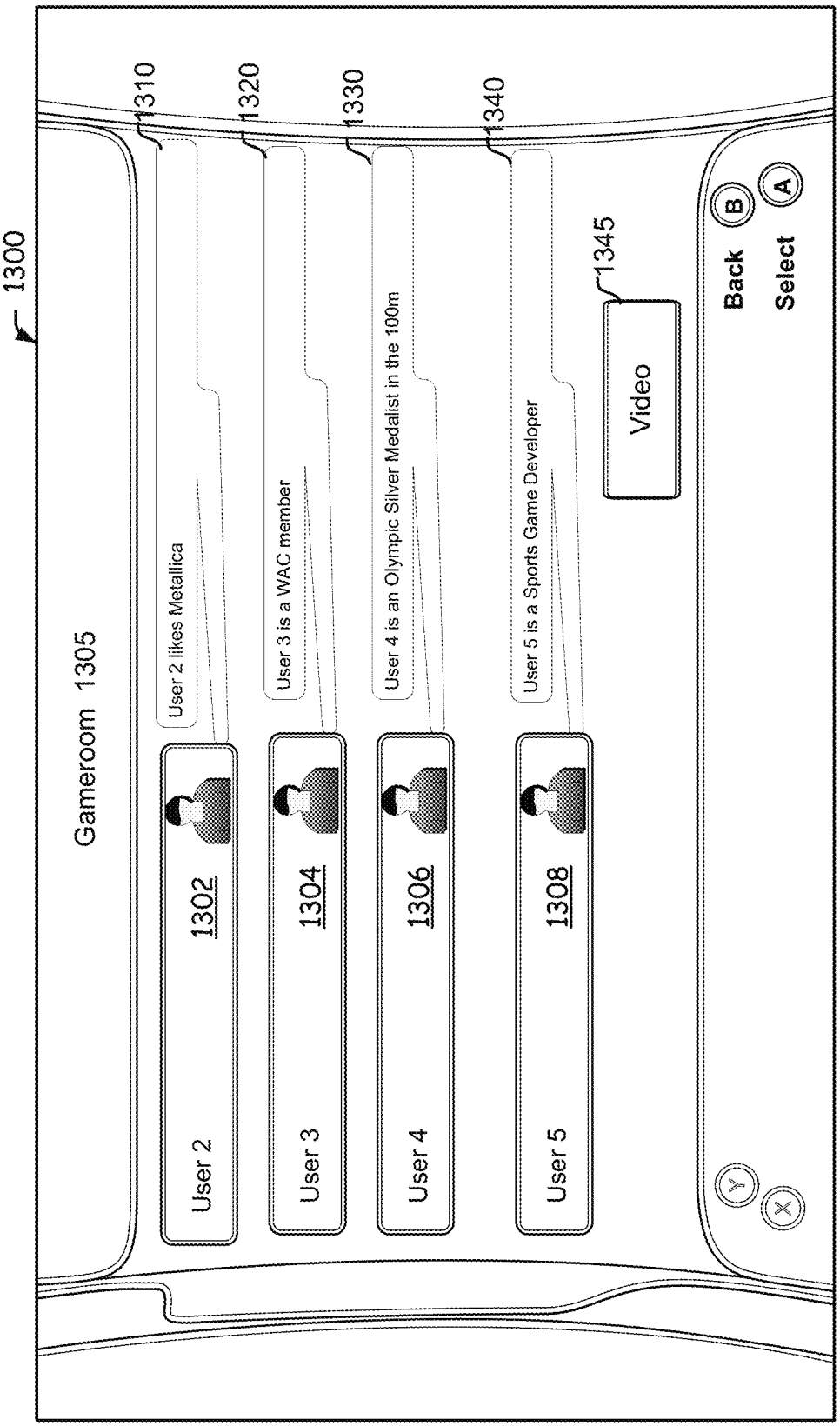

1300
Gameroom 1305
1310
1320
1330
1340
1345
User 2 likes Metallica
User 3 is a WAC member
User 4 is an Olympic Silver Medalist in the 100m
User 5 is a Sports Game Developer
Video
Back
Select
User 2
1302
User 3
1304
User 4
1306
User 5
1308

FIG. 13A

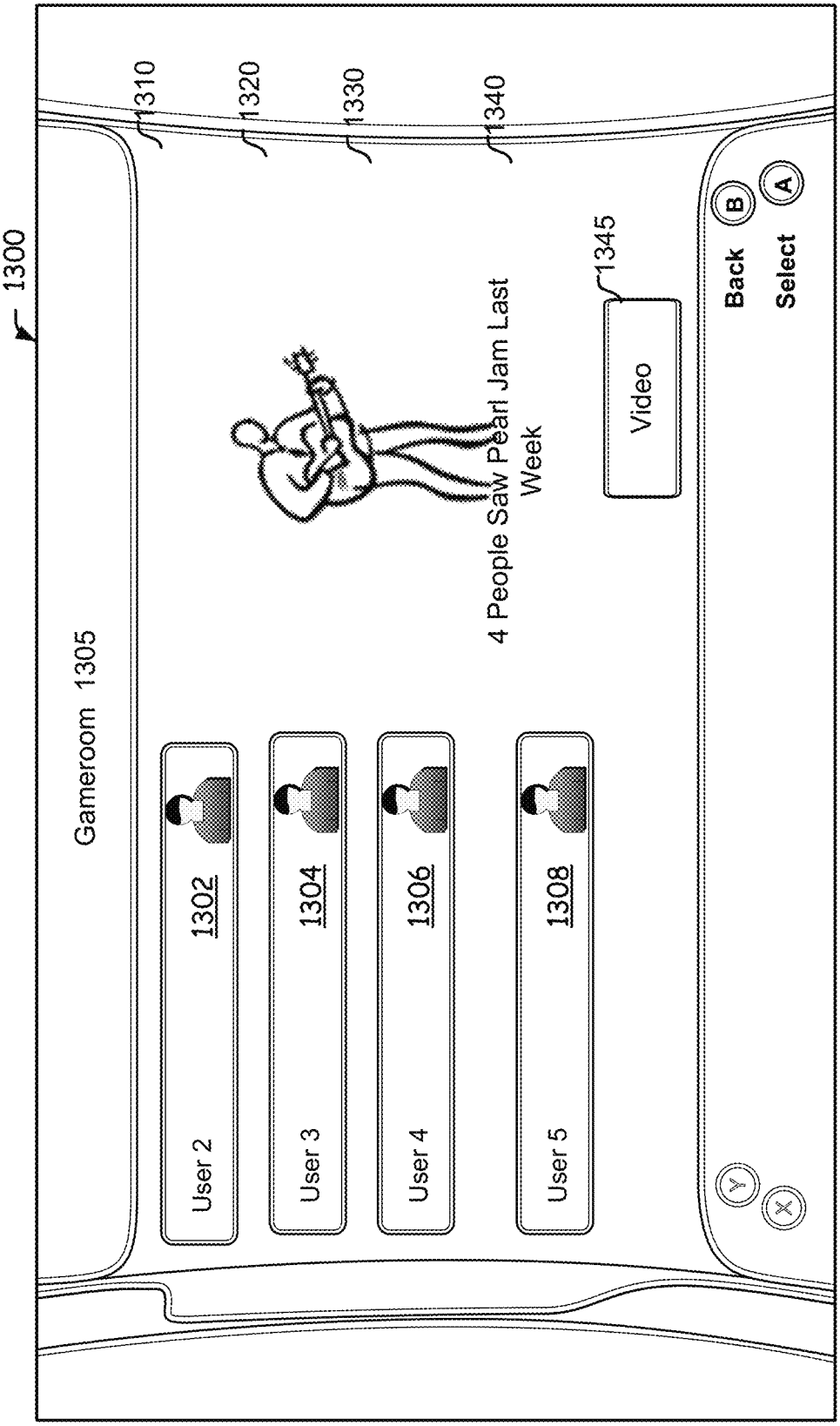
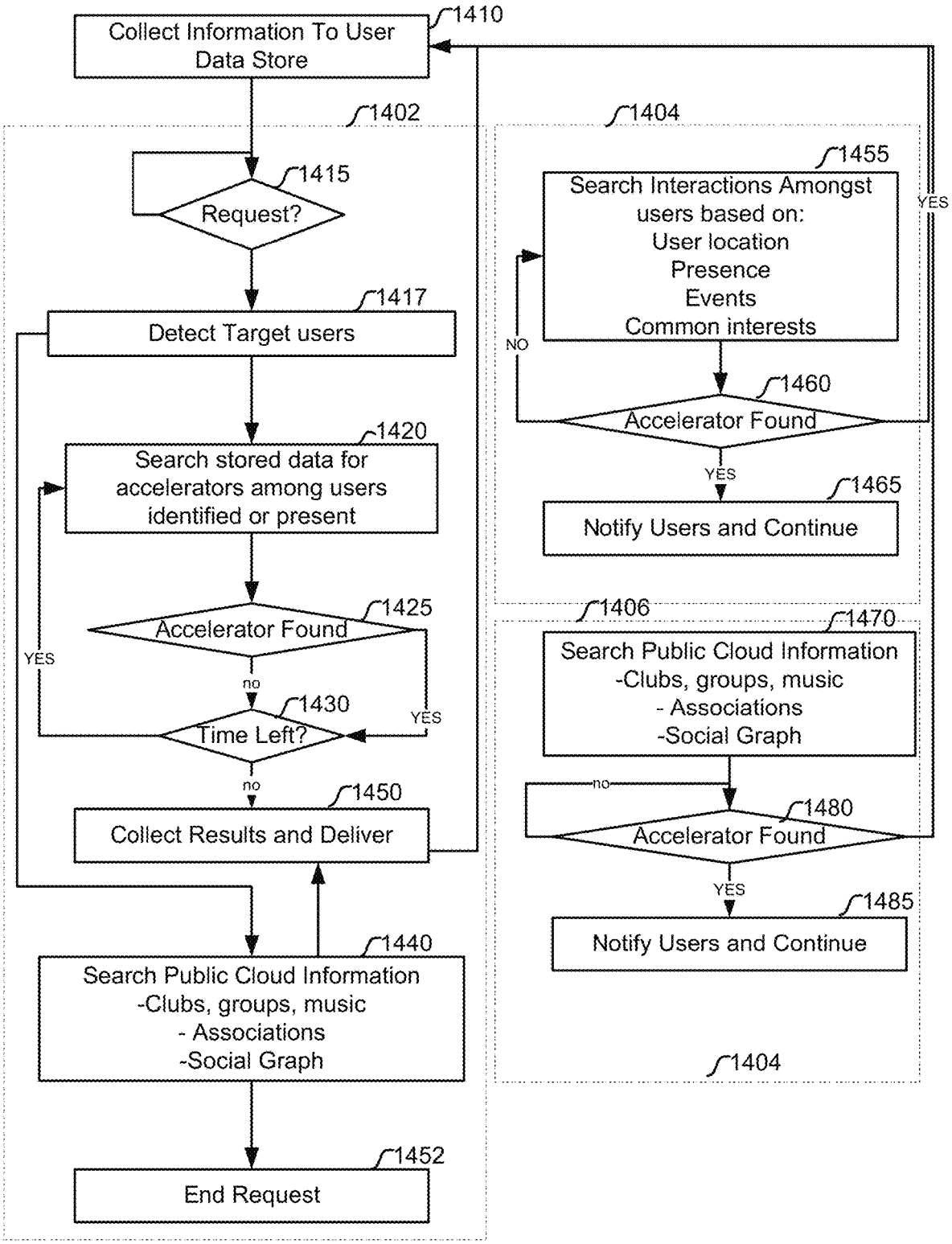

1300
1310
1320
1330
1340
1345
Gameroom 1305
User 2 1302
User 3 1304
User 4 1306
User 5 1308
4 People Saw Pearl Jam Last Week
Video
Back B
Select A
Y
X

FIG. 13B

FIG. 14


1410
Collect Information To User Data Store
1402
1404
1415
Request?
1455
Search Interactions Amongst users based on:
User location
Presence
Events
Common interests
YES
NO
1417
Detect Target users
1460
Accelerator Found
YES
1465
Notify Users and Continue
1420
Search stored data for accelerators among users identified or present
1425
Accelerator Found
YES
no
1430
Time Left?
YES
no
1406
1470
Search Public Cloud Information
-Clubs, groups, music
- Associations
-Social Graph
1450
Collect Results and Deliver
no
1480
Accelerator Found
YES
1485
Notify Users and Continue
1440
Search Public Cloud Information
-Clubs, groups, music
- Associations
-Social Graph
1404
1452
End Request

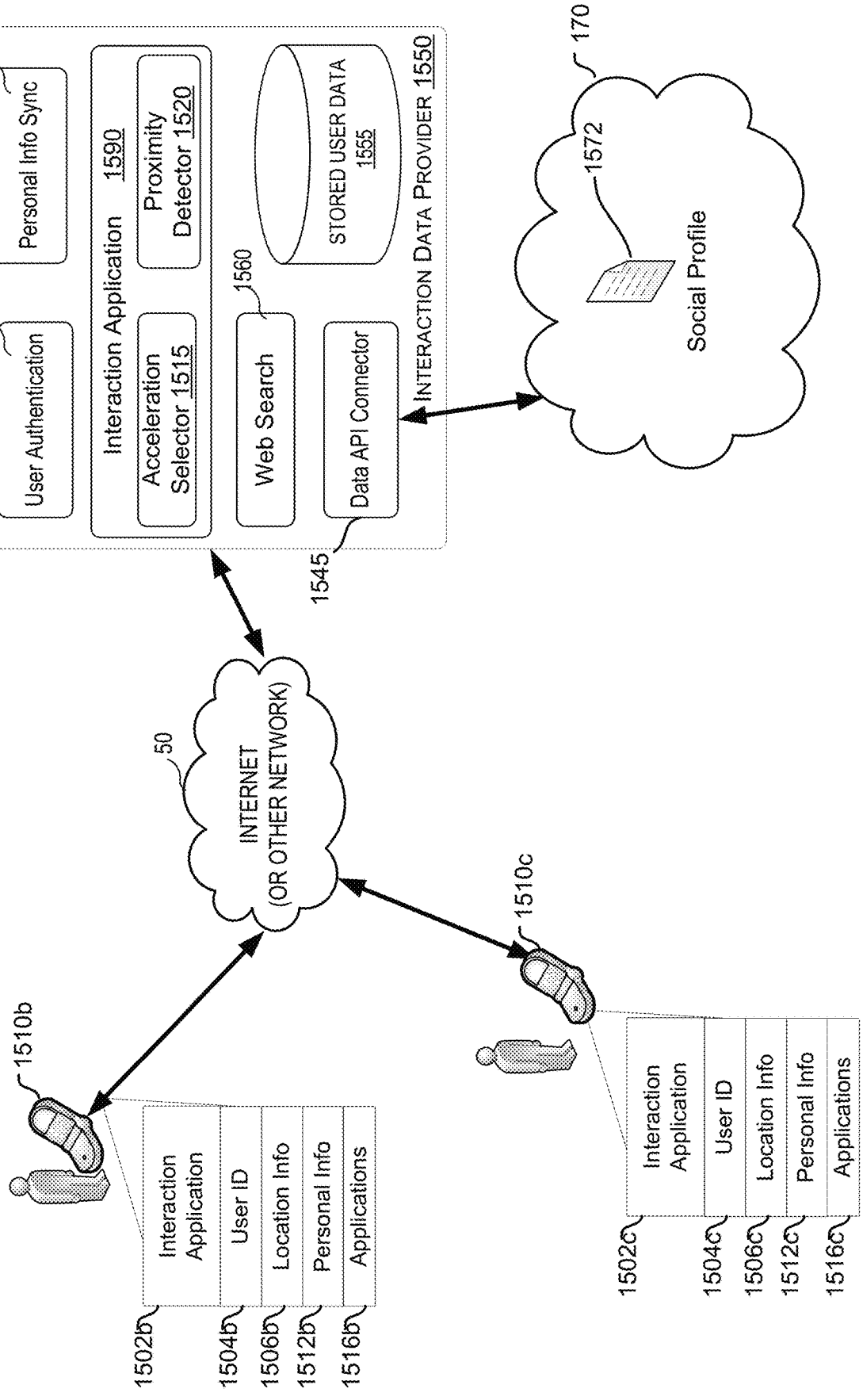

INTERACTION DATA PROVIDER 1550
1525
Personal Info Sync
1505
User Authentication
Interaction Application 1590
Acceleration Selector 1515
Proximity Detector 1520
1560
Web Search
Data API Connector
1545
STORED USER DATA 1555
170
1572
Social Profile
50
INTERNET (OR OTHER NETWORK)
1510b
1510c
Interaction Application
User ID
Location Info
Personal Info
Applications
1502b
1504b
1506b
1512b
1516b
1502c
1504c
1506c
1512c
1516c

FIG. 15

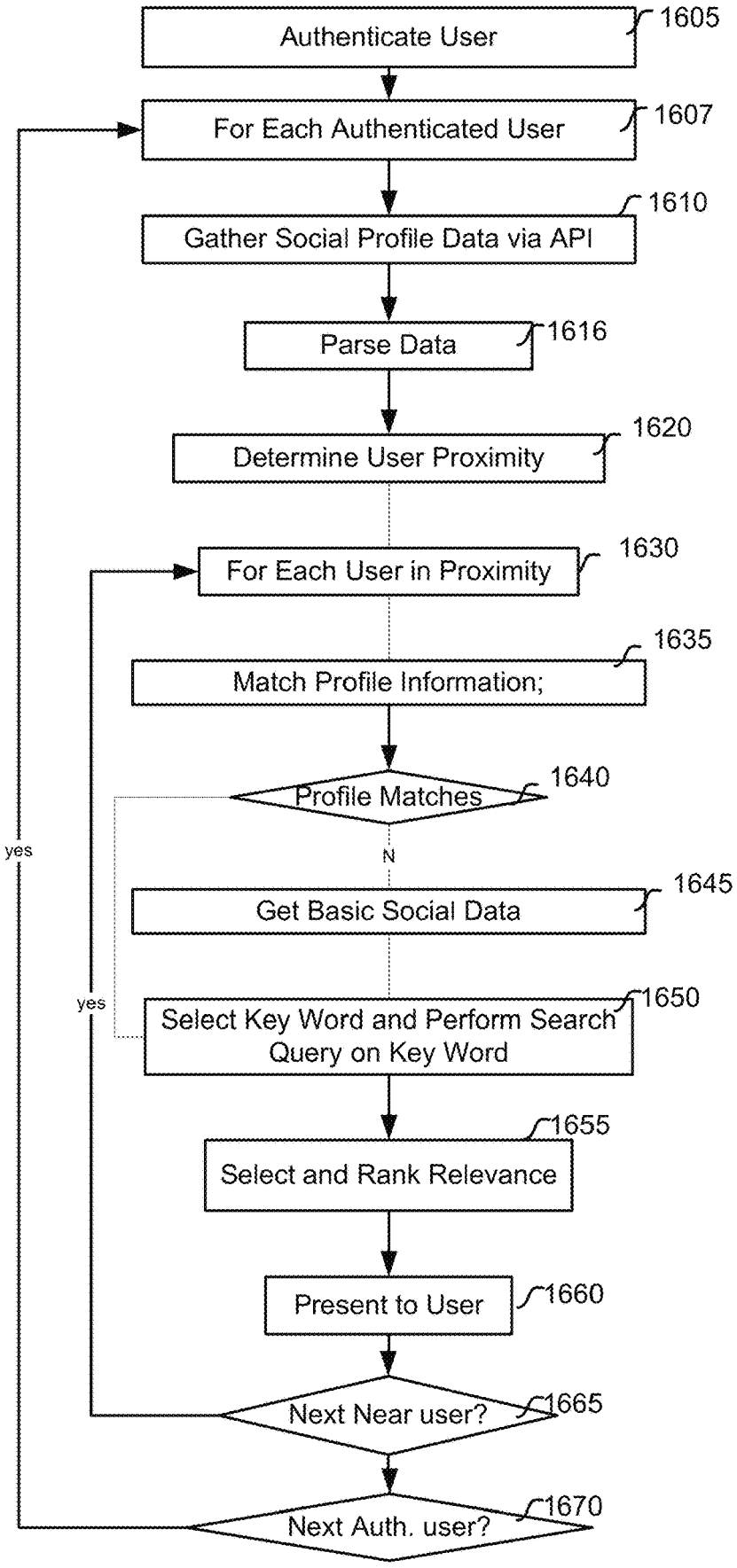

Authenticate User
1605
For Each Authenticated User
1607
Gather Social Profile Data via API
1610
Parse Data
1616
Determine User Proximity
1620
For Each User in Proximity
1630
Match Profile Information;
1635
Profile Matches
1640
N
yes
yes
Get Basic Social Data
1645
Select Key Word and Perform Search Query on Key Word
1650
Select and Rank Relevance
1655
Present to User
1660
Next Near user?
1665
Next Auth. user?
1670

FIG. 16

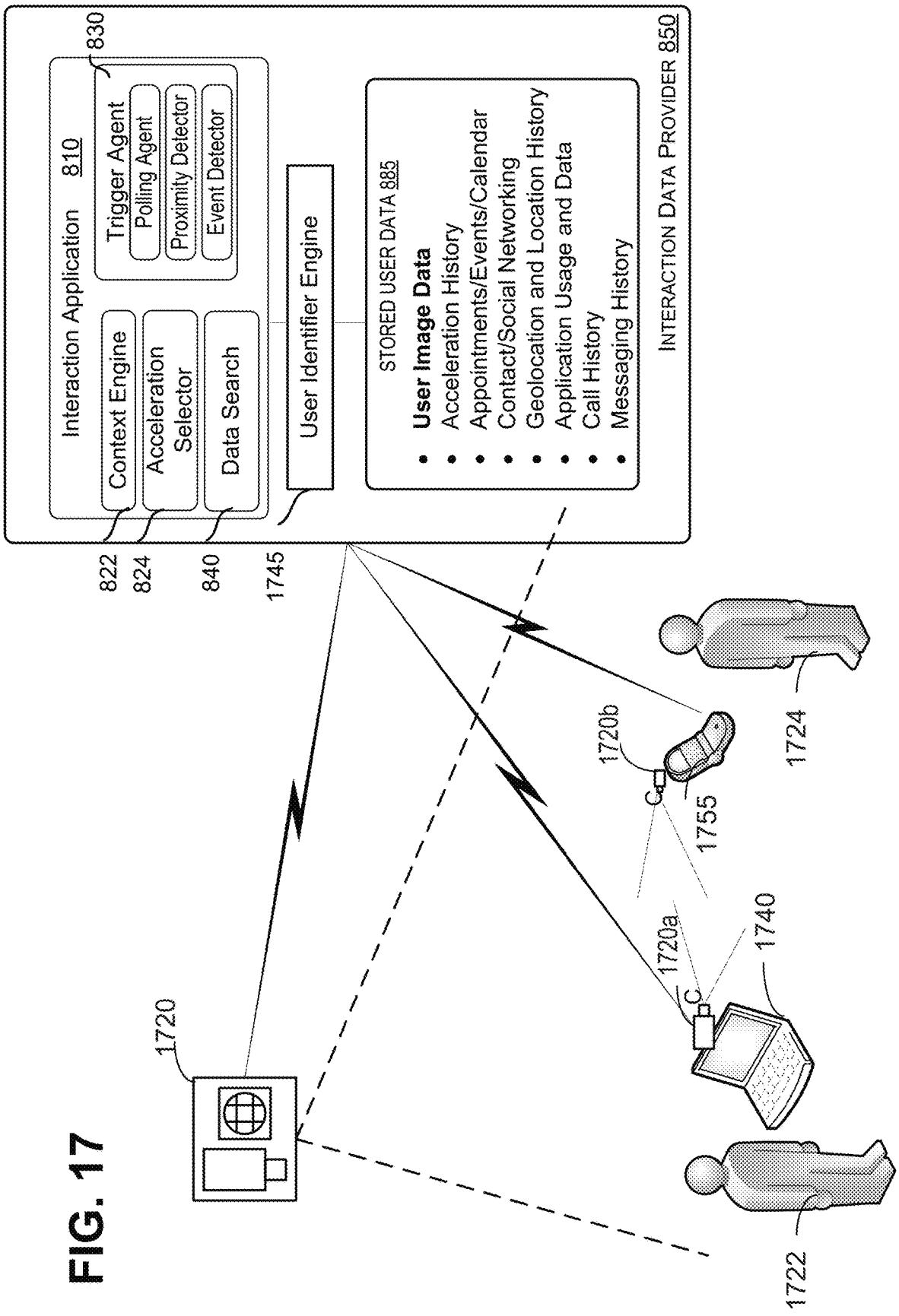

Interaction Application 810
Context Engine
Acceleration Selector
Data Search
Trigger Agent
Polling Agent
Proximity Detector
Event Detector
830
User Identifier Engine
STORED USER DATA 885
User Image Data
Acceleration History
Appointments/Events/Calendar
Contact/Social Networking
Geolocation and Location History
Application Usage and Data
Call History
Messaging History
INTERACTION DATA PROVIDER 850
822
824
840
1745
1720
1720a
1720b
1740
1755
1724
1722

FIG. 17

ACCELERATION OF SOCIAL INTERACTIONS

PRIORITY APPLICATION

This application claims the benefit of and priority to U.S. application Ser. No. 12/821,984, filed Jun. 23, 2010, the entire contents of which are incorporated herein by reference.

BACKGROUND

People interact in a variety of ways, both in person and through virtual communications. Interactions can be one on one, or in groups, and surround an event or a common location, or be dispersed. The chance for a positive social interaction is generally better where more information is known about individuals with whom you are interacting. Often, it is not possible to remember relevant information about people one interacts with. In other cases, one is placed in social situations where little is known about others with whom you are in the social situation.

Many individuals have access to processing devices in social situations. These devices carry personal information about themselves and other individuals, and have access to published information about other individuals via a network.

SUMMARY

The technology, briefly described, comprises a system and method for facilitating social interactions between different individuals. Information available about each of the individuals engaged in a social interaction is used to provide a "social accelerator" for an interaction between the individuals. The social accelerator may comprise information about one or more of the individuals in the social interaction, such as a common interest or common historical event, which makes the social interaction more comfortable for the individuals. The accelerator can be provided before or during the event, and multiple accelerators may be provided as needed to improve social interactions.

In one embodiment, social interactions are improved or accelerated by aggregating available information about individuals participating in an information system. When an interaction event trigger is received, the context for possible social interaction between the users around the trigger event is determined. A social accelerator is selected from available interest information common to the participating user and the target user, and the social accelerator is provided to one or both of the individuals.

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** depicts a system in which the technology discussed herein may be utilized.

FIG. **2** is a block diagram of an exemplary gaming console.

FIG. **3** is a block diagram of an exemplary mobile device.

FIG. **4** is a block diagram of an exemplary processing device.

FIG. **5**A is a flowchart illustrating a first method in accordance with the technology

FIG. **5**B is a flowchart illustrating a more detailed process flow of a first method in accordance with the technology.

FIG. **6**A is a block diagram illustrating the technology implemented on a centralized processing device.

FIG. **6**B is a block diagram illustrating the technology implemented on two communicating mobile devices.

FIGS. **7**A-**7**F illustrate various user interfaces presenting social accelerators on a mobile device.

FIG. **8** depicts a server based system for implementing the technology discussed herein.

FIG. **9** illustrates weighing of context elements used to determine a case selection scenario for determining a social accelerator.

FIG. **10** illustrates a method of determining a social accelerator to avoid an awkward situation between individuals in a social interaction.

FIG. **11** is a flowchart illustrating a method of determining a social accelerator to match individuals in a social interaction.

FIG. **12** is a flowchart illustrating a method of determining a social accelerator to catalyze and existing group of individuals in a social interaction.

FIGS. **13**A and **13**B are exemplary user interfaces showing notifications provided in an Xbox 360® gaming console.

FIG. **14** is a flowchart illustrating an exemplary method performed by a server based interaction application

FIG. **15** illustrates a system for implementing an alternative embodiment of the technology.

FIG. **16** is a flowchart illustrating a method performed by an interaction application in one alternative embodiment.

FIG. **17** illustrates a system for implementing another alternative of the technology.

DETAILED DESCRIPTION

Technology is presented for accelerating social interactions between different individuals. The social interactions may be real world, on-line or virtual, and may be within the individuals' physical presence or over distances. In these real world, on-line or virtual interactions, individuals may have associated with them a processing device, but the technology is not limited to enabling social interaction only with individuals having associated processing devices. Where two individuals are engaged in a social interaction, the technology can assist an individual with a processing device in improving or "accelerating" the social interaction experience. The technology utilizes any information available about each of the individuals engaged in a social interaction to provide a "social accelerator." The social accelerator may comprise information about one or more of the individuals in the social interaction, such as a common interest or common historical event, which makes the social interaction more comfortable for the individuals. The accelerator can be provided before or during the event, and multiple accelerators may be provided as needed to improve social interactions. The accelerator may be provided to individuals, a sub-group within a larger group of individuals, or all members of a group.

A social accelerator comprises information, activities or other events about one or more of the individuals in a social interaction which increases the comfort of the interaction between the parties. Various examples of social accelerators are described herein. Generally, a social accelerator is an information pivot about which a social interaction may occur. A social accelerator may be a common interest,

important background information about the individuals, facts about one individual or many individuals that the other individuals may find interesting, or news about common interests. For example, if two individuals like the game Halo® and a new Halo® tournament winner is announced, such news may comprise a accelerator. An accelerator may also present information about the group overall, such as their interests, interesting facts about their game performance, and the like.

Social challenges exist in any conversation event or activity. Challenges are greater in situations where people understand little about one another and may be less willing to broadcast details about themselves to a random group. The technology address how people can be matched together in a way that they find themselves amidst people talking about subjects they care about or find interesting.

The technology uses known data, queries, events (triggers), and information from user applications to foster conversations which are more comfortable and provide deeper interaction amongst a group of people. Accelerators can be leveraged to group people (from a larger group) together better, to provide topics for an established group to discuss, and to prevent socially awkward situations.

In the context of the technology, accelerators may be provided automatically or upon request by an individual. Individuals requesting a social accelerator may be referred to as requesting individuals while those about whom an accelerator is requested may be referred to as target users. Participating users may be considered individuals who utilize one or more of the interaction technologies discussed herein to receive social accelerators. Target users may be participating users, or may be individuals about whom public information is available via a network data source.

Social accelerators may be provided by specific applications designed to provide accelerators and operating on user processing devices, or may be provided to user processing devices by a system platform via one or more existing notification technologies provided in the user processing device. For example, social accelerators may be provided to mobile devices using one or more standard technologies commonly present in the mobile device, such as SMS messaging or voice call technology. Accelerators may be provided to game consoles using "toast" messaging overlays built into the console interface. An application designed to provide accelerators may be specifically designed for the purpose of providing accelerators' (e.g. a dedicated client for a processing device) or may be implemented as part of another device application, such as a game. For instance, once all players land in a game lobby, the game will call for an accelerator and then present the result to the group via a game UI.

FIG. **1** is an overview of a system and situations in which social accelerators may be utilized. FIG. **1** shows a plurality of individuals **102**, **106**, **114**, **118**, **122**, **126**, **132**, **140**, **142**, **144**, **146**, **148**, **150**, **152** any one or more of which is engaged in a social relationship with one of the other individuals depicted in FIG. **1**. Individuals may have associated with them one or more processing devices. For example, user **102** has associated with him a notebook computer **104**, user **106** has associated with her a gaming console **108**, user **118** has associated with her a mobile device **116** and user **122** has associated with him a television **124**. Each of the devices illustrated in FIG. **1** may be coupled to each other via one or more public or private networks **50**, which may include the Internet, cellular networks, or any other type of known public or private data and/or voice transfer network. Each of the devices may further have access to cloud based information **170**. Cloud based information **170** includes public and/or private information about any of the individuals depicted in FIG. **1** and stored on a network accessible data store which is available via network **50**. For example, public information may include a Facebook® profile **172**, a personal web log **174**, a My Space® profile **176**, geo location presence **178**, and gaming history **180**. Additional cloud information **170** may further include private data **190** accessible via the cloud, wherein the private data **190** may include things such as purchasing records, banking history, and purchase transaction history via any other number of known vendors. In one embodiment, private data **190** is only accessible based on authorized access by the owner of the private data. Where private data is used in the present system, the user may authorize one or more of the technologies discussed herein to access all or selected portions of the private data to enable the functionality described herein.

In-person personal interactions which may occur between individuals in FIG. **1** may include, for example, individuals **140**, **142**, **144**, **146**, **148**, **150**, **152** engaged in an event **160**, such as a party. An event **160** may be known event, which is included on any one or more of the users **140-152** calendar, or an unknown event, which is not available via the users calendar or event record. Events **160** may also include various types of social gatherings such as concerts, sporting events, theater events, movies, or any type of event which places the users in a similar location at a similar time. Events **160** may comprise on-line or virtual events where a group of individuals are gathered for a common purpose as discussed below.

Each of the various types of processing devices may access the cloud based information **170**, and may also have different types of information associated with the user stored locally on the device. For example, a gaming console **108** may include information **110** such as a history of games played, a history of games purchased, a history of which applications are played most by user **106**, and application data, such as achievements, awards, and recorded sessions. A mobile device **116** may include information **120** such as contact information, calendar information, geo location information, application usage data, application specific data, and a user's messaging and call history. A notebook computer, such as notebook **128**, may include items such as contact information, calendar information, geo location information, application usage, application data, and message history for an associated user **126**.

In addition to in-person social interactions, users can engage in social interactions in virtual space or via electronic communication. For example user **106** may engage in an online game with user **132**. In the game, the users may interact not only by playing the game, but also by verbal or messaging communications between them. Similarly, user **118** via mobile device **116** may simply make a phone call to user **114** on mobile device **112**. User **102** via notebook **104** may communicate via e-mail, instant messaging, or other applications with user **126** on a notebook **128**. Virtual interactions need not be conducted between the same devices. Users may engage in a virtual space gathering via a group chat service such as Xbox LIVE® Party Chat. Each of these interactions—a call, a chat, an email, an in-person experience—is augmented by the social interaction technology to induce conversation between the participants based on at least one common shared interest.

As described below, social accelerators used for the various personal and virtual social interactions between the various users illustrated in FIG. **1** can generally be classified into one of a number of cases. A first case is a group

catalyzer social accelerator. In a first scenario, a group of users is attending an in-person or virtual space group event. In this case, user have likely already gathered for a common purpose—a party, an concert or the like, and social accelerators are use to find different points of interest other than the common event. When attending such an event, one or more users attending may not know enough information to feel comfortable interacting with other users at the event. Thus, a social accelerator may help to catalyze members of an existing group and promote social interaction between different members of the group who do not already know each other or have only limited knowledge of others attending the event.

A second case for the use of social accelerators is to prevent awkward situations between users. In this case, a user participating in a social interaction with another user may wish to avoid any awkwardness in the social interaction. Supposed, for example, a user receives a phone call from another individual with whom he has not spoken in some time, and cannot remember the calling party's personal information, such as family information and the calling party's birthday. A social accelerator, such as providing the calling individual or family member's impending birthday information, can be used to help prevent an awkward situation between the parties during the call.

A third case is the use of social accelerators to directly match people in virtual or in-person relationships to create new groups and promote interaction between the new members. In a matching case, social accelerators can be used to provide matching topics of interest, commonalities, social interaction points upon which two or more individuals may begin a social interaction, such as a conversation. However, the people matching context need not surround a particular event or proximal relationship, but may help users avoid uncomfortable situations where they are in a social interaction or group where there is limited or no knowledge of other users around them. In the matching context, it is likely that a fewer number of strong common interests would bring together a group. In one aspect, the technology is used to select a smaller set of people from a larger group where the smaller set is selected based on a common accelerator. In one example, the matchmaking over a larger social and gaming environment such as Xbox LIVE® scenario may be provided. For example, if a large number of, for example, 10,000 users are looking for a match in a particular game, the present technology may provide a small set (for example 10 users) that we think have things they would enjoy discussing—things in addition to the game they are playing.

Any number of other potential acceleration cases exist, and those used as examples herein should not be construed as limiting. The technology when presented herein may be utilized to provide at least one common interest or accelerator from a pool of people to take samples from.

FIG. **2** is a functional block diagram of gaming and media system **201** and shows functional components of the gaming and media system **201** in more detail. Console **203** has a central processing unit (CPU) **200**, and a memory controller **202** that facilitates processor access to various types of memory, including a flash Read Only Memory (ROM) **204**, a Random Access Memory (RAM) **206**, a hard disk drive **208**, and portable media drive **107**. In one implementation, CPU **200** includes a level 1 cache **210** and a level 2 cache **212**, to temporarily store data and hence reduce the number of memory access cycles made to the hard drive **208**, thereby improving processing speed and throughput.

CPU **200**, memory controller **202**, and various memory devices are interconnected via one or more buses (not shown). The details of the bus that is used in this implementation are not particularly relevant to understanding the subject matter of interest being discussed herein. However, it will be understood that such a bus might include one or more of serial and parallel buses, a memory bus, a peripheral bus, and a processor or local bus, using any of a variety of bus architectures. By way of example, such architectures can include an Industry Standard Architecture (ISA) bus, a Micro Channel Architecture (MCA) bus, an Enhanced ISA (EISA) bus, a Video Electronics Standards Association (VESA) local bus, and a Peripheral Component Interconnects (PCI) bus also known as a Mezzanine bus.

In one implementation, CPU **200**, memory controller **202**, ROM **204**, and RAM **206** are integrated onto a common module **214**. In this implementation, ROM **204** is configured as a flash ROM that is connected to memory controller **202** via a PCI bus and a ROM bus (neither of which are shown). RAM **206** is configured as multiple Double Data Rate Synchronous Dynamic RAM (DDR SDRAM) modules that are independently controlled by memory controller **202** via separate buses (not shown). Hard disk drive **208** and portable media drive **107** are shown connected to the memory controller **202** via the PCI bus and an AT Attachment (ATA) bus **216**. However, in other implementations, dedicated data bus structures of different types can also be applied in the alternative.

A three-dimensional graphics processing unit **220** and a video encoder **222** form a video processing pipeline for high speed and high resolution (e.g., High Definition) graphics processing. Data are carried from graphics processing unit **220** to video encoder **222** via a digital video bus (not shown). An audio processing unit **224** and an audio codec (coder/decoder) **226** form a corresponding audio processing pipeline for multi-channel audio processing of various digital audio formats. Audio data are carried between audio processing unit **224** and audio codec **226** via a communication link (not shown). The video and audio processing pipelines output data to an A/V (audio/video) port **228** for transmission to a television or other display. In the illustrated implementation, video and audio processing components **220-228** are mounted on module **214**.

FIG. **2** shows module **214** including a USB host controller **230** and a network interface **232**. USB host controller **230** is shown in communication with CPU **200** and memory controller **202** via a bus (e.g., PCI bus) and serves as host for peripheral controllers **205(1)-205(4)**. Network interface **232** provides access to a network (e.g., Internet, home network, etc.) and may be any of a wide variety of various wire or wireless interface components including an Ethernet card, a modem, a wireless access card, a Bluetooth module, a cable modem, and the like.

In the implementation depicted in FIG. **2**, console **203** includes a controller support subassembly **240** for supporting four controllers **205(1)-205(4)**. The controller support subassembly **240** includes any hardware and software components needed to support wired and wireless operation with an external control device, such as for example, a media and game controller. A front panel I/O subassembly **242** supports the multiple functionalities of power button **213**, the eject button **215**, as well as any LEDs (light emitting diodes) or other indicators exposed on the outer surface of console **203**. Subassemblies **240** and **242** are in communication with module **214** via one or more cable assemblies **244**. In other implementations, console **102** can include additional controller subassemblies. The illustrated implementation also

shows an optical I/O interface **235** that is configured to send and receive signals that can be communicated to module **214**.

MUs **241**(**1**) and **241**(**2**) are illustrated as being connectable to MU ports "A" **231**(**1**) and "B" **231**(**2**) respectively. Additional MUs (e.g., MUs **241**(**3**)-**241**(**6**)) are illustrated as being connectable to controllers **205**(**1**) and **205**(**3**), i.e., two MUs for each controller. Controllers **205**(**2**) and **205**(**4**) can also be configured to receive MUs (not shown). Each MU **241** offers additional storage on which games, game parameters, and other data may be stored. Additional memory devices, such as portable USB devices, can be used in place of the MUs. In some implementations, the other data can include any of a digital game component, an executable gaming application, an instruction set for expanding a gaming application, and a media file. When inserted into console **203** or a controller, MU **241** can be accessed by memory controller **202**. A system power supply module **250** provides power to the components of gaming system **201**. A fan **252** cools the circuitry within console **203**.

An application **260** comprising machine instructions is stored on hard disk drive **208**. When console **203** is powered on, various portions of application **260** are loaded into RAM **206**, and/or caches **210** and **212**, for execution on CPU **200**, wherein application **260** is one such example. Various applications can be stored on hard disk drive **208** for execution on CPU **200**.

Gaming and media system **201** may be operated as a standalone system by simply connecting the system to monitor a television, a video projector, or other display device. In this standalone mode, gaming and media system **201** enables one or more players to play games, or enjoy digital media, e.g., by watching movies, or listening to music. However, with the integration of broadband connectivity made available through network interface **232**, gaming and media system **201** may further be operated as a participant in a larger network gaming community, as discussed in connection with FIG. **8**.

FIG. **3** depicts an example block diagram of a mobile device. Exemplary electronic circuitry of a typical m phone is depicted. The phone **300** includes one or more microprocessors **312**, and memory **310** (e.g., non-volatile memory such as ROM and volatile memory such as RAM) which stores processor-readable code which is executed by one or more processors of the control processor **312** to implement the functionality described herein.

Mobile device **300** may include, for example, processors **312**, memory **310** including applications and non-volatile storage. The processor **312** can implement communications, as well any number of applications, including the interaction applications discussed herein. Memory **310** can be any variety of memory storage media types, including non-volatile and volatile memory. A device operating system handles the different operations of the mobile device **300** and may contain user interfaces for operations, such as placing and receiving phone calls, text messaging, checking voicemail, and the like. The applications **330** can be any assortment of programs, such as a camera application for photos and/or videos, an address book, a calendar application, a media player, an internet browser, games, an alarm application, other third party applications, the interaction application discussed herein, and the like. The non-volatile storage component **340** in memory **310** contains data such as web caches, music, photos, contact data, scheduling data, and other files.

The processor **312** also communicates with RF transmit/receive circuitry **306** which in turn is coupled to an antenna **302**, with an infrared transmitted/receiver **308**, and with a movement/orientation sensor **314** such as an accelerometer. Accelerometers have been incorporated into mobile devices to enable such applications as intelligent user interfaces that let users input commands through gestures, indoor GPS functionality which calculates the movement and direction of the device after contact is broken with a GPS satellite, and to detect the orientation of the device and automatically change the display from portrait to landscape when the phone is rotated. An accelerometer can be provided, e.g., by a micro-electromechanical system (MEMS) which is a tiny mechanical device (of micrometer dimensions) built onto a semiconductor chip. Acceleration direction, as well as orientation, vibration and shock can be sensed. The processor **312** further communicates with a ringer/vibrator **316**, a user interface keypad/screen **318**, a speaker **320**, a microphone **322**, a camera **324**, a light sensor **326** and a temperature sensor **328**.

The processor **312** controls transmission and reception of wireless signals. During a transmission mode, the processor **312** provides a voice signal from microphone **322**, or other data signal, to the transmit/receive circuitry **306**. The transmit/receive circuitry **306** transmits the signal to a remote station (e.g., a fixed station, operator, other cellular phones, etc.) for communication through the antenna **302**. The ringer/vibrator **316** is used to signal an incoming call, text message, calendar reminder, alarm clock reminder, or other notification to the user. During a receiving mode, the transmit/receive circuitry **306** receives a voice or other data signal from a remote station through the antenna **302**. A received voice signal is provided to the speaker **320** while other received data signals are also processed appropriately.

Additionally, a physical connector **388** can be used to connect the mobile device **100** to an external power source, such as an AC adapter or powered docking station. The physical connector **388** can also be used as a data connection to a computing device. The data connection allows for operations such as synchronizing mobile device data with the computing data on another device.

A global positioning service (GPS) receiver **365** utilizing satellite-based radio navigation to relay the position of the user applications enabled for such service.

FIG. **4** illustrates an example of a suitable computing system environment **400** such as a personal computer. With reference to FIG. **4**, an exemplary system for implementing the technology includes a general purpose computing device in the form of a computer **410**. Components of computer **410** may include, but are not limited to, a processing unit **420**, a system memory **430**, and a system bus **421** that couples various system components including the system memory to the processing unit **420**. The system bus **421** may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. By way of example, and not limitation, such architectures include Industry Standard Architecture (ISA) bus, Micro Channel Architecture (MCA) bus, Enhanced ISA (EISA) bus, Video Electronics Standards Association (VESA) local bus, and Peripheral Component Interconnect (PCI) bus also known as Mezzanine bus.

Computer **410** typically includes a variety of computer readable media. Computer readable media can be any available media that can be accessed by computer **410** and includes both volatile and nonvolatile media, removable and non-removable media. By way of example, and not limitation, computer readable media may comprise computer storage media and communication media. Computer storage

media includes both volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Computer storage media includes, but is not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical disk storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store the desired information and which can accessed by computer **410**. Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared and other wireless media. Combinations of the any of the above should also be included within the scope of computer readable media.

The system memory **430** includes computer storage media in the form of volatile and/or nonvolatile memory such as read only memory (ROM) **431** and random access memory (RAM) **432**. A basic input/output system **433** (BIOS), containing the basic routines that help to transfer information between elements within computer **410**, such as during start-up, is typically stored in ROM **431**. RAM **432** typically contains data and/or program modules that are immediately accessible to and/or presently being operated on by processing unit **420**. By way of example, and not limitation, FIG. **4** illustrates operating system **434**, application programs **435**, other program modules **436**, and program data **437**.

The computer **410** may also include other removable/non-removable, volatile/nonvolatile computer storage media. By way of example only, FIG. **4** illustrates a hard disk drive **440** that reads from or writes to non-removable, nonvolatile magnetic media, a magnetic disk drive **451** that reads from or writes to a removable, nonvolatile magnetic disk **452**, and an optical disk drive **455** that reads from or writes to a removable, nonvolatile optical disk **456** such as a CD ROM or other optical media. Other removable/non-removable, volatile/nonvolatile computer storage media that can be used in the exemplary operating environment include, but are not limited to, magnetic tape cassettes, flash memory cards, digital versatile disks, digital video tape, solid state RAM, solid state ROM, and the like. The hard disk drive **441** is typically connected to the system bus **421** through an non-removable memory interface such as interface **440**, and magnetic disk drive **451** and optical disk drive **455** are typically connected to the system bus **421** by a removable memory interface, such as interface **450**.

The drives and their associated computer storage media discussed above and illustrated in FIG. **4**, provide storage of computer readable instructions, data structures, program modules and other data for the computer **410**. In FIG. **4**, for example, hard disk drive **441** is illustrated as storing operating system **444**, application programs **445**, other program modules **446**, and program data **447**. Note that these components can either be the same as or different from operating system **434**, application programs **435**, other program modules **436**, and program data **437**. Operating system **444**, application programs **445**, other program modules **446**, and program data **447** are given different numbers here to illustrate that, at a minimum, they are different copies. A user may enter commands and information into the computer **20** through input devices such as a keyboard **462** and pointing device **461**, commonly referred to as a mouse, trackball or touch pad. Other input devices (not shown) may include a microphone, joystick, game pad, satellite dish, scanner, or the like. These and other input devices are often connected to the processing unit **420** through a user input interface **460** that is coupled to the system bus, but may be connected by other interface and bus structures, such as a parallel port, game port or a universal serial bus (USB). A monitor **491** or other type of display device is also connected to the system bus **421** via an interface, such as a video interface **490**. In addition to the monitor, computers may also include other peripheral output devices such as speakers **497** and printer **496**, which may be connected through a output peripheral interface **490**.

The computer **410** may operate in a networked environment using logical connections to one or more remote computers, such as a remote computer **480**. The remote computer **480** may be a personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the computer **410**, although only a memory storage device **481** has been illustrated in FIG. **4**. The logical connections depicted in FIG. **4** include a local area network (LAN) **471** and a wide area network (WAN) **473**, but may also include other networks. Such networking environments are commonplace in offices, enterprise-wide computer networks, intranets and the Internet.

When used in a LAN networking environment, the computer **410** is connected to the LAN **471** through a network interface or adapter **470**. When used in a WAN networking environment, the computer **410** typically includes a modem **472** or other means for establishing communications over the WAN **473**, such as the Internet. The modem **472**, which may be internal or external, may be connected to the system bus **421** via the user input interface **460**, or other appropriate mechanism. In a networked environment, program modules depicted relative to the computer **410**, or portions thereof, may be stored in the remote memory storage device. By way of example, and not limitation, FIG. **4** illustrates remote application programs **485** as residing on memory device **481**. It will be appreciated that the network connections shown are exemplary and other means of establishing a communications link between the computers may be used.

The technology is operational with numerous other general purpose or special purpose computing system environments or configurations. Examples of well known computing systems, environments, and/or configurations that may be suitable for use with the technology include, but are not limited to, personal computers, server computers, hand-held or laptop devices, multiprocessor systems, microprocessor-based systems, set top boxes, programmable consumer electronics, network PCs, minicomputers, mainframe computers, distributed computing environments that include any of the above systems or devices, and the like.

The technology may be described in the general context of computer-executable instructions, such as program modules, being executed by a computer. Generally, program modules include routines, programs, objects, components, data structures, etc. that perform particular tasks or implement particular abstract data types. The technology may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed

computing environment, program modules may be located in both local and remote computer storage media including memory storage devices.

FIG. **5**A illustrates a general method in accordance with the present technology. Generally, at **510**, a triggering event will occur. The triggering event may comprise any of a number of different actions initiating or occurring in a social interaction, including an initial meeting of individuals, a phone call between individuals, a short message service (SMS) or multimedia message service (MMS) text, instant message or email, a calendar event, periodic event, a phone call, a user request for additional information, user movement into a particular area, user proximity to other users who have opted into the technology, entrance into or initiation of a group gaming lobby, such as an Xbox Live® game lobby, use of a group chat service, such as Xbox Live® chat, and the like. The triggering event can be any event which causes an individual or an application to initiate a request for a social accelerator. At **590**, for a given group in a social interaction, at least one social accelerator which may encourage interaction between at least a subset of the members of the group is selected. At **555**, the accelerator is provided users either explicitly or implicitly via a processing device associated with users in the subset. Explicit examples are notifying the user via one or more direct means that other people are present with a common interest. Implicit notification can include, for example, notifying a group of breaking news about a common interest or playing music by a performer which all users share an interest in.

FIG. **5**B illustrates one embodiment of the method illustrated in FIG. **5**A to provide social acceleration to social interactions. Following a trigger event at **510**, at **515**, available data on any of the individuals in the social interaction is gathered. As illustrated in FIG. **1**, the data may comprise public data and private data. Public data may include things such as items which an individual posts to public web sites or publicly available information locations. Types of information which may be gathered at **515** include, without limitation: data such as information from social web sites such as Facebook®, Foursquare™, and My Space™; information available from any aforementioned public data sites; service data, such as that which may be available from gaming services such as Xbox LIVE®, including gamer profile data; user real time search and search history; user data such as user contacts, contact history, messaging history and contact interactions; geo-location presence; geo-location history; purchasing data indicating items the user has recently bought; application data indicating the types of applications a user has recently used; personal interest data culled from the aforementioned public web sites published by the user; social graphing data, including friends, friends of friends, family and other socially defined relationships; data related to an activity a group is participating in (e.g. playing Halo®) or provided by the application the collective group is using and exposed data from friends of the user and other levels of the social graph.

It should be understood that in certain context, the data gathered at **515** may be limited. That is, it is desirable in social interactions to provide a social accelerator within a particular time period. Hence, the amount of available data at **515** may be filtered to a smaller set in order to provide more relevant information back to an individual within an acceptable time period in order to render the social accelerator relevant. Taking too long to provide a social accelerator would defeat the effectiveness of the social acceleration use.

At **520**, the context of the interaction is determined. Context can be defined as the situation relevant details of the social interaction. Such details can include: the type of social interaction, whether virtual or personal; the type of event, whether predefined or random; and the speed of the social interaction accelerator required—immediate to avoid a socially awkward situation, or temporally distant, where a user has time before the interaction is to occur. The context can define the types of data that an acceleration selector **535**, **540**, **550**, described below, will use to make an accelerator selection and how quickly the selector will return this data to the user or group. In alternative embodiments, no context is determined. In this context, data which may be relevant in one context or case may not be relevant in others, and vice-versa. Once the available data is gathered and the context determined, a determination is made on which conversation acceleration case is required at **570**. If the case is to catalyze an existing group of users at **525**, then a catalyzer acceleration selection metric is used at **535**. A catalyzer selection metric is described below in FIG. **12**. If a people matching case is determined at **530**, then a people matching accelerator selection metric is used at **540**. If an awkward situation prevention case is determined at **545**, an awkward case accelerator selection metric is utilized at **550**. Any number of different situational cases **547** and situational accelerator selection types **552** can be utilized in the present technology. For example, an additional case **547** may be to catalyze a new group to create or join an event. In addition, specific cases such as those illustrated in FIG. **9** may be provided. Specific cases include situations where an on-line game match is desired or a participating user is present in an on-line game lobby waiting for other users to join a game or seeking to play a game with user with whom the participating user might like to socialize. The determination of a case is described below with respect to FIG. **10**. Respective selectors are described below with respect to FIGS. **10**, **11** and **12**.

FIGS. **6**A, and **6**B illustrate general examples of an implementation of the technology for providing social accelerators in accordance with the description herein. FIG. **6**A illustrates a server based implementation of the technology which may notify client devices using, for example, conventional messaging technology provided in the client devices. FIG. **6**B illustrates a peer-to-peer communication embodiment utilizing a dedicated interaction application provided on respective mobile devices. FIG. **6**A illustrates an implementation where one or more individual user devices need not have a dedicated application on an associated processing device, while FIG. **6**B illustrates that it is not necessary that a centralized control processing device be provided. It should be understood that the peer-to-peer example shown in FIG. **6**B may occur between various types of processing devices other than mobile devices (for example, a mobile device and a gaming console, a gaming console and a computer, and the like), and more than two processing devices. The implementation of FIG. **6**B may be used alone or in conjunction with the implementation examples shown in FIGS. **6**A and **8** wherein an interaction application data provider is utilized to control and augment social accelerator interactions between a plurality of users.

Illustrated in FIG. **6**A is a centralized interaction data provider **890** operates one or more processing devices or servers, any one or more of which can provide instances of interaction application **810** as a service to devices via network **50**. Interaction application **810** provides client devices **104**, **108**, **112**, **116**, **128**, **130** with social accelerators via one or more communication technologies available on

the client device without the need for a specialized application on the client device. Application **880** includes a triggering agent **870** which detects triggering events and operates in a manner similar to a client based trigger agent **630** described below with respect to FIG. **6**B. Devices connecting to application **810** may be required to authenticate themselves or their associated user via a user authentication service (not shown). In an alternative embodiment, no authentication mechanism is needed—any association between a processing device and a user to whom the social accelerator is directed is sufficient to enable the technology. Interaction application **880** also includes a context engine **822** and acceleration selector **824** which operate in a manner similar to those described below with respect to interaction application **620**A and **620**B and further detailed in FIGS. **9** through **15**. Interaction application **880** also includes a data search engine **860** can connect to public and private information available in cloud information **170** and private data **190**. Interaction application **880** can access both the stored user data **885**, as well as cloud data **170** and private data **190**. Stored user data can include accelerator history, comprising of recent accelerators associated with the client processing device or with the user of a processing device, calendar information associated with a user or with the processing device which may include appointments, events, and other calendar data, contact and social networking information, geo-location presence data and location history data, application usage information and application specific data, call history, and messaging history for the individual user or device.

FIG. **6**B illustrates a peer to peer embodiment enabling the present technology including a first mobile device **600** and a second mobile device **610**. It should be noted that any two processing devices of any type disclosed herein may comprise devices **600** and **610**, and mobile devices are illustrated herein merely for convenience. Each mobile device includes a processing device **312**A, **312**B, and an interaction application **620**A, **620**B, and local user data **640**A, **640**B. Mobile device **600**, **610** may be the mobile device as that described above with respect to FIG. **2**. Each device will contain the user data for the associated user of the mobile device. Local user data can include, but not be limited to, accelerator history, comprising of recent accelerators associated with the user of the mobile device and/or between the user of mobile device **600** and mobile device **610**, calendar information which may include appointments, events, and other calendar data, contact and social networking information, geo-location presence data and location history data, application usage information and application specific data, call history, and messaging history for the individual user of device **600**, **610**. An interaction application **620**A, **620**B provided on respective devices can include, for example, a context engine **622**A which determines the particular case and context of an accelerator which may be relevant to a particular situation, an acceleration selector which processes the local user data and any known data of a second user to determine an accelerator to return to the user of the device, and a triggering agent **530**A which may include, for example, a polling agent which periodically returns social accelerators to the user on a timed basis, a proximity detector **634**A, **634**B which detects the presence of other users having interaction applications installed on one or more devices and can trigger the acceleration process described above with respect to FIG. **5** upon detection of a user and proximity of device **600** or when the user is connected to another user having an interaction application, in an event detector **636**A, **636**B, which detects events in a user's calendar or other information which can generate a trigger to begin the accelerator process to return information to the user which will be relevant to the user at the event.

In the context of FIG. **6**B, a direct connection **690** can be made between each of the respective mobile devices **600** and **610**. Each interaction application can detect the presence of the other application on a mobile device of another participating user. Any number of mechanisms may enable such detection, including, for example, continuously polling a known network port on which each interaction application listens for other applications and establishing a connection when detected. When an event trigger is detected by the trigger agent **630***a*, **630***b* the interaction application uses the acceleration selector **624***a*, **624***b* and context engine **622***a*, **622***b* to provide an accelerator to the user of the device (e.g. device **610**) which may be an interaction accelerator for the user of the other device (e.g. device **610**).

Various examples of the type of notifications which can be provided to the user are illustrated in FIGS. **7**A-**7**F. Although FIGS. **7**A-**7**F illustrate exemplary interfaces for a mobile device, it should be understood that the concepts for providing accelerators illustrated in FIGS. **7**A-**7**F are not limited to mobile devices and may be provided via a user interface from any type of processing device.

FIG. **7**A shows a user interface **318***a* of a mobile device illustrating an example where a user on a mobile device such as that illustrated in FIG. **6** receives a phone call from another individual. The phone call itself can act as a triggering event. In FIG. **7**A, the phone interface **318***a* includes a status area **702** illustrating the signal strength, time, and battery power available, and one or more physical control buttons in area **708**. Area **704** illustrates the name and photo of the calling party. In this case, John Smith is calling for the phone's user. FIG. **706** illustrates a first set of social accelerators which are available to the called party. A phone call is an event where one may wish to avoid a socially awkward situation. As such, the social accelerators selected to help the called party remember information about the calling party which, if forgotten, might embarrass the called party. In this example, the information tells the called party that the calling party's family information includes a wife, Suzy, the user's birthday, selective notes, selective likes, the last event that the two users attended together, and the next event that the two users have planned. In this case, notes may indicate information that the phone's user has provided to himself about the other user. The information on the calling party's "likes" may be provided from information local to the device e.g. from historical data stored in the phone, or may be derived from information about the calling party which is available from the cloud information **170**. Local information may include matching items such as attendance at common events or meetings together in the past. For instance, user John Smith and the mobile device user may have attended Seahawks and Mariners' sporting events together, and the number of events that the two users have attended together may indicate that the calling party, John Smith, enjoys football. Public information in a gaming profile for John Smith may indicate that John enjoys playing Halo. The information provided at **706** can allow the called party to avoid awkward situations and provide the called party with topics to discuss during the phone call with John Smith.

FIG. **7**B illustrates seven notifications that may be provided during a people matching case. In FIG. **7**B, a user viewing interface **918** is present at a social event, referred to on the interface as "Mary's Party." An information area **710** in a people matching situation may present a number of different users **711**, **720**, **730**, **740**, and information relative

to the individual user that may be in common with the user of the phone device. In FIG. **7**B, the user of the device is, for example, an athlete who enjoys running and music. As such, accelerators can be returned to the user of the device for each user in the proximity detected by the interaction application may be relevant to the device user's interests. For user **711**, "Sally", information that Sally ran—the Bay to Breakers foot race and saw Pearl Jam last week is presented. User "Steve" **720** recently ran the Trans Tahoe Marathon and recently bought the album "The Fixer", while user "Mike" **730** recently joined Weight Watchers and recently bought a Zune music device. The fact that Mike joined Weight Watchers may be indicative of the fact that Mike has some interest in becoming more fit, and thus would enjoy discussing athletics with the user of the phone and Sally or Steve. User "John" **740** is a Washington Athletic Club member, and thus is likely to also be interested in athletics. In interface **7**B the people matching social accelerators center on a music theme and an athletics theme. Any of these accelerators may generate an interest in the user of the phone. For example, the user of the phone may wish to join the Washington Athletic Club and/or may be interested in running the Trans Tahoe Marathon. Other interests, themes and events could be social accelerators.

Connection options may be provided to connect to each of the various users presented in the interface **318**. A "nudge" button **712** and a "connect" button **714** can allow the interactive application to present an interface on the other user's interaction application. A "nudge" selection by the user of interface **318***a* may present a notification to, for example, "Sally" then another user in the room is interested in the accelerator items listed in FIG. **7**A-**7**B. A nudge may comprise an attempt to connect without identifying the sending user, while a connect may be a more direct request for a connection. It will be appreciated that the "nudge" and "connect" examples set forth herein are merely illustrative of accelerator uses which may be provided by a processing device.

An example of receiving a "nudge" or "connect" request is illustrated in FIG. **7**C. As shown therein, a nudge indicates that another user is "interested" in the Bay to Breakers. Selecting a connection item **714** may result in a more direct connection request, also interested in FIG. **7**C, indicating, for example, that another user in the room wishes to discuss Pearl Jam and offering Sally an opportunity to connect with that user. If Sally accepts the connection, the user's contact information may be provided via the interaction application by sharing personal information such as a photo and name information. In other cases, a social accelerator may be presented for users to engage with or not, based on their own choosing.

FIG. **7**D illustrates another alternative wherein the technology is utilized to catalyze an existing group of users. In FIG. **7**D, an interface **318** is presented whereby users are classified into different groups. The groups may be as small as one user, or any number of users. User 1 (**750**) is displayed and shares an interest with the phone's user of being a Pearl Jam fan. Likewise, user 2 (**752**) has indicated via his public or private information that he is a chocolate lover. Users 4 through 7 (**760**) have all indicated that they are Seattle Seahawks fans, and users 8 through 15 (**762**) have all indicated that they are Washington Athletic Club members. For users **750** and **752**, the opportunity to nudge or connect to the members is presented. For larger groups of users, the interface may present a "see more" selection **764**, which may provide a more detailed representation of all the users who are Seahawks fans or WAC members. A connect selection **714** may operate in a manner similar to that disclosed above offering to connect both the use of the interface **718** as well as other users who share the same interest in the room. It should be understood that the notifications provided in FIGS. **7**A-**7**D may be utilized in both the peer-to-peer embodiment shown in FIG. **6** and the networked embodiment shown in FIG. **8**, and discussed below.

FIGS. **7**E and **7**F illustrate alternative user interfaces providing a social accelerator. FIG. **7**E illustrates an alternative to providing a social accelerator in the social interaction of "Mary's Party" discussed above with respect to FIG. **7**B. In FIG. **7**B, on common interest which may serve as a social accelerator is an interest in fitness, specifically running, while another was an interest in music and specifically the band Pearl Jam. In FIG. **7**E, a social accelerator for running is presented as an icon **798** and an accelerator for music in FIG. **7**F as an icon **799**. Explanatory text may further indicate the meaning of the icon, and users of the device may then have the option of selecting the icon to see additional information. In one embodiment, where the user does not select the icon for further information, another accelerator may be presented. Accelerators may rotate or move to one or more additional accelerators determined by the technology based on the event and proximity of users to the event.

FIG. **8** illustrates a networked interaction application **810** which can be utilized with any number of devices such as device **800**A, **800**B, **800**N and **800**X, which may comprise any of the devices illustrated above with respect to FIGS. **1**-**4**, or any type of processing device capable of connecting to a network **50** and which may be associated with a user or individual. As illustrated in FIG. **8**, each device includes a respective interaction application **802**A, **802**B, **802**C, user data **812**A, **812**B, **812**C, and one or more applications **816**A, **816**B, **816**C. An interaction data provider **850** operates one or more processing devices or servers any one or more of which can provide instances of interaction application **810** as a service to devices via network **50**. Each of the interaction applications **802**A, **802**B, **802**C may be written for the particular type of device utilized, and the types of data which are likely to be provided on a device and the types of context in which the device is likely to be utilized. For example, an interaction application **802**A utilized on a console **800** may be tailored to use data regarding game events **855**, and gain applications **860**A and **860**B.

Interaction application **810** operates in a manner similar to interaction applications operating on specific client devices, but includes additional service level capabilities. Application **810** includes a triggering agent similar to that described above with respect to FIG. **6**A, **6**B. Devices connecting to application **810** may be required to authenticate themselves or their associated user via a user authentication service (not shown). In other embodiments, authentication is not required. The triggering agent **830** detects trigger events including specific requests for information from requesting users and events detected by searching information store **880** of stored user data. In alternative embodiments, the triggering agent generates a trigger event based on the physical proximity of users or common presence in a game environment. Interaction application **810** also includes a context engine **822** and acceleration selector **824** which operate in a manner similar to those described above with respect to interaction application **620**A and **620**B in further detail below and FIGS. **9** through **15**. Interaction application **810** also includes a data search engine **840** which utilizes a data API connector **845** to connect to public and private infor-

mation available in cloud information **170** and private data **190**. Each of the respective data sources utilized in the cloud-based information **170** may include an API allowing third parties to access data stored in the particular environment. Interaction application **810** can access both the stored user data **880**, as well as cloud data **170** and private data **190**.

Users wishing to be participating users may be required to opt into the use of social accelerators, associate a processing device with themselves, and provide access to certain types of data. Users may be offered an opportunity to control the types of data which an interaction application can access, and limit that to selected types of information based on the user's preferences. As discussed below, the interaction application's relative access to different amounts of data can depend on whether the interaction application utilizes local data on a device, or stored user data **880**, or cloud data **170**. As noted above, whether the interaction application utilizes all such data may depend upon the amount of time that an interaction application has to return a social accelerator to a user in a relevant time period.

As discussed below, one aspect of interaction application **810** is that for all participating users, a subset of the user information may be stored on user data store **880**. Interactive application **810** may continually search the user data store **880**, as well as cloud data **170**, and generate trigger events when possible accelerators are recognized in the searched data. In addition, the interaction application **810** may act as an agent for device based interaction applications and return additional social accelerators when trigger events occur on device-based applications.

FIG. **9** illustrates a mechanism for determining the social accelerator case at step **570**, illustrated above. The social accelerator case is dependent upon a number of factors which can be incorporated into the determination by weighting each factor with a decision weight, and summing each of the weighting factors to determine which case is to use for a given social interaction.

FIG. **9** is a non-exhaustive list illustrating factors **902** through **922** used in determining whether to use a group catalyzation case **535**, a people matching case **540**, or an awkward situation prevention case **550** in a particular event. The factors which can contribute to case determination include: whether a user is leaving an application or a game **902**; whether the user is entering an application or game **904**; whether the user is receiving a phone call **906**; whether the user is receiving an instant message, message, e-mail, or other type of notification **908**; whether the trigger is a periodic scan of a user's personal information; whether the trigger is a random request by the user without reference to a predefined event or situation **912**; whether the interaction is personal **914**; whether the interaction is virtual **916**; whether other opted in participants of the interaction applications are detected **918**; whether presence of other opted in participants are detected at a common location with the user **920**; whether the users are at a common event **922**; and other factors. The factors indicating that the case is one attempting to catalyze an existing group of users may be those including: whether a user leaving an application or game **902**; a user triggering or entering an application or game **904**; a periodic trigger **910**; a personal interaction event **914**; a virtual interaction event **916**, the presence of other participating users **918**, and the user at a common location with others at **920**. The people matching context may include such indicators as: users receiving a phone call **906**, the trigger is a random request **912**, the interaction is personal **914**, the interaction is virtual **916**, other participants are at the event **918**, the user is at a common location with other participants **920**, or the user is at a common event with others **922**. Indicators pointing to a case of avoiding an awkward situation include the users receiving a phone call **906**, the users receiving an instant message or other messaging at **908**, the trigger is periodic at **916**, the periodic is random at **912**, the interaction is personal **914**, or virtual, **916**, other opted in participants are available **918**, or at a common location with the user **920**, or there is a common event at which all users are attending **922**. Different weights may be assigned to each of the respective factors **902** through **922**, in some situates calculated at **535**, **540**, and **550** to determine a particular case in which accelerator selection routine should be utilized. The list and the factors contributing to each case is not exhaustive. Different definitions and factors can be used to define each case. Each factor may have the same weight or different weights

Additional cases **547** are presented for purposes of illustration as interactions occurring over an online connection such as matching individuals for gaming or social interaction **547***a*, online presence in a game lobby waiting for or exiting a group gaming context **547***b*, and entering a group chat **547***c*.

Additional cases **547** are illustrated as online social or game matchmaking, presence in a game lobby, such as that provided by one or more online gaming services such as Xbox Live®, or a group chat room. Factors contributing to a determination that the context a game matchmaking case include entrance into a game lobby **932**, entrance into a game application **934** (which may or may not be combined with entrance into a game lobby), an indication that the interaction is online **938**, the fact that there are other participating users in the lobby or application **940**, a common presence with other **942** and all users are in the same game **944**. In the above case, certain factors such as the entrance into a game lobby and the presence of participating users may be allocated greater weight than other factors for the matchmaking case. Once the matchmaking case is determined, interests of members of the lobby or users running the application can be used to provide social accelerators in a variety of ways.

Other additional cases, such as presence in a game lobby **974** or entrance into a group chat environment **977**, would be defined by other factors. For example, entrance into a group chat **936** would be a primary factor and heavily weighted in determining a chat specific case **977**. Likewise, entrance into a game lobby **932** and presence of participating users **940** would be primary factors in determining a game lobby case.

FIG. **10** illustrates a method for determining a social accelerator at **750** when the social accelerator is designed to avoid awkward situations. At **1010**, the context of the social interaction is determined. In this example, the context may comprise a phone call being received by the user or presence of the user at a particular physical or on-line event. In one embodiment, the context is used in defining search criteria and sorting relevant accelerators. At **1015**, target user information is retrieved. In this instance, the target user is another individual with whom the participation individual seeks to avoid an awkward situation. In a phone call, the target user may be the calling party. Target user information may be obtained from the type of trigger (e.g., from caller I.D. information and a phone call) or direct input by the participating user. At a party, the target user may be a contact identified by a requesting user via a user interface specifically provided for the interaction application. Alternative methods of determining the target user may be used, including the user of facial recognition as discussed below with

respect to FIG. **17** through the use of augmented reality interfaces such as augmented reality glasses, or target user presence notifications generated by service provider such as that discussed above with respect to FIG. **8**.

At **1020**, a search of local target user data present on requesting participating user's device is performed. A participating user may have stored locally on the user's processing device readily available information about the target user which can be used to construct an accelerator. Such information can include the user's family information, birthday, last common appointment shared, messaging history including call history and instant messaging history, and acceleration history. The acceleration history can comprise a history of the social accelerators presented by the technology herein to the user when the participating user, a client application or a service has requested social accelerators regarding the target user previously. At **1025**, a set of basic information regarding the target user retrieved as a result of the local information search may be presented. Basic information may be defined by the participating user, or by a predefined set of information pertinent to avoiding an awkward situation. This may include the target user's family information, personal information, birthday, or any other information which is input by the participating user regarding the target user.

If additional time remains **1030** to seek out information before the social interaction occurs, the search may be expanded at **1035**. If not, any accelerators found at step **1020** may be sorted and provided at **1040**. If an expanded search is available at **1035**, public cloud information **170** may be searched for the target user interests, clubs, groups, music, associations, users in the social graph, and other information, such as gaming information. Searching of public cloud information may be performed directly by an interaction application local to the device or by the networked interaction application **810**. A search at **1035** may include identifying one or more keywords, interests, associations, groups, music, social graph members or gaming information of the target user, and returning the information as a potential social accelerator. The additional information may be provided at **1040**.

At step **1040**, all of the different types of information available whether from the set of basic information at **1025** or from the expanded search at **1035** may be sorted according to the relevance of the particular context determined at **1010**. Information may be classified into different types of accelerators having priority over other accelerators. For example, information indicating a friendship relationship from a social graph may take priority and be presented before information regarding membership in a particular club or organization. Classification can be contest dependent. For example, social graph information may be more relevant in a people matching case than in an awkwardness prevention case.

Information is then delivered to a participating user at **1045**. As noted above, one example of notifying a participating user is through an application user interface **318***a* of a mobile device. Other methods of notification include using native messaging technologies of the participating user's associated processing device. In one embodiment, if time remains, the process may return to step **1030** and continue gathering information and displaying updated results as they become available. Other examples of notifying applications including an Xbox360® display screen are provided below in FIG. **13**. Other notifying applications may include, for example, messaging applications, such as SMS messages, e-mails, instant messaging, verbal alerts, audio alerts, and the like. Still further examples of notifying users includes providing notifications in augmented reality devices such as augmented reality glasses and use of augmented reality interfaces in mobile devices. For example, a user can point a mobile processing device with a camera having a field of view at scene which includes target users. Using known technologies, a virtual pointer or other indicator can be presented to the user by overlaying target users or users in the field of view on the screen of a mobile processing device. Notifications can include more basic types, including a phone call to the user which verbally notifies the user of target users present through synthesized speech technologies.

FIG. **11** is a method for providing social accelerators in a people matching accelerator case. Examples of people matching accelerator cases include matching individuals at a group event such as a party, matching individuals at a public group event such as a concert or sporting event, matching users in a random location or online context, such as in a restaurant or chat room, and matching users wishing to play an online game. In a manner similar to the method defined above with respect to FIG. **10**, at step **1110**, the context of the social event is determined. In a people matching accelerator situation, the context is likely to be a party, a public event or a random meeting between individuals. For example, a user may be present in a coffee shop and wish to avoid dining alone. In this example, the user can initiate a triggering event—a request—comprising a selection to determine if other participating users are at the coffee shop, or within a particular geographical location, are available to dine and converse.

An initial determination at **1115** will be made as to whether or not participating users are present and within a particular physical range. This can include determining users who may have a client based accelerator application running on an associated processing device or determining the proximity of participating users using known associated processing devices. If not, no accelerators may be available at **1120**. If other participating users are available, target user information will be determined at **1125**. Target user information in this instance may be derived from known attendees at a common event, or user presence information available from interaction applications on target users' devices. An initial search will be made of local target user data at **1130**. Previous conversations, previous accelerations, easy matches and events with users with whom the participating user may already have a connection may be returned at **1130**. At **1135**, the participating user's social graph may be navigated to determine whether or not any social relationships exist. Often, easy social acceleration can be had by reference to a commonly known individual or a third party. If a close match exists in either the local user data at **1130** or the social graph at **1135**, close matches may be presented to the user at **1145**. This may be performed by delivering the close matches to the target application. If no close matches are present and no time is left at **1150**, then the best available matches are presented at **1155** to a sorting and weighting step **1170**. The sorting step **1170** may be performed in accordance with the discussion of step **1040** in FIG. **10**. If additional time is present, then the search is expanded at **1160** into public cloud information **170**. An expanded search is performed in a manner similar to that described above with respect to step **1035**, although, as noted above, selection of search terms, criteria, and weighting of information returned will be relevant to the people matching case and the context of the request. The algorithm looks for common interest among the various target users and the participating

user and at **1170**, the common interests are returned and one or more of the best rated social accelerators is selected and delivered to the delivering application at **1180**.

FIG. **12** is a flow chart illustrating accelerator selection when the case involves catalyzing an existing group of individuals. An existing group may be present at a common event, or within a particular geographic location, or within a common virtual interaction. At step **1210**, the context of the group is determined. The context of the group may be a common real world event, a common on-line or virtual event, such as participating in a common game, or a random event where the group is located at a common location. If a group has been organized for a particular purpose, such as to participate in a game, then the group has a context associated with the game and at least one common point of reference—that the users all like participating in the game. An initial determination is made at **1215** as to whether or not participating users are within communication range or present in a common online event. If not, no accelerators may be retrieved at **1220**. In this instance, communication range may comprise a physical proximity or connection in a virtual interaction. At **1225** target user information is retrieved, including whether the users are present and whether there are known attendees in the group. At **1230**, the present participating user and target users are compared relative to a social graph to see if the users have a third party user or common intersection along the social graph. At **1235**, accelerators are identified among the users or within users of the social graph. At **1240**, if a close match is present, then the users are presented with the close matches at **1245**. At **1250**, the local information on the target users is searched. Local information can be searched more quickly than other types of information and thus may return a result more quickly. If time remains at **1255** to perform an expanded search, then an expanded search is performed at **1265** in a manner similar to steps **1160** and **1035** above. If no time is left, then basic information is provided at **1260** the accelerator sorted **1270** and delivered at **1280**.

FIGS. **13**A and **13**B are examples of delivery of information to users via an Xbox 360® interface. An Xbox 360® interface includes a user interface **1300**. In the example shown in FIG. **13**A, a number of users (users 2, 3, 4 and 5) are present in a game room **1305**. The game room may be hosted by one or more of the processing devices illustrated in FIG. **8**, or by a third party gaming host provider, or by a gaming service provider. For each user 2, user 3, user 4, and user 5, a notification level **1310**, **1320**, **1330** and **1340** is shown. Each level includes information regarding the user, such as the fact that user 2 likes Metallica, user 3 is a WAC member, user 4 is an Olympic silver medalist in the marathon, and user 5 is a sports game developer. Each of these social accelerators may be provided to the user of the device to allow conversation amongst the users to be enhanced. In FIG. **13**B, a single icon representing a music figure indicates that four users in the room like Metallica, in a manner similar to that shown above with respect to FIG. **7**F.

In one other alternative, delivery may comprise indirectly using an accelerator to enhance interactions. For example, in a gaming room or lobby environment **1305** where multiple users are present, the users may have been placed in the game room as a result of completing a game as a group or selectively joining the room with the interest of finding others with whom to play the game. It is generally more enjoyable to participate in a game (or any other event) where one does so with others having a common interest. In some cases, during the game, certain events may have occurred, for example, music may be played in the game, social acceleration can occur when a group catalyst accelerator such as that shown in FIG. **12** determines that all the users in the game room like Metallica, and the delivery step **1280** includes providing this information to the game application, which then starts playing Metallica in the game. Likewise, or additionally, the catalyst accelerator method of FIG. **12** may determine that users 2, 3, 4 and 5 all enjoy skateboarding, and may present a skateboarding video on a video window **1245** within the display **1300**. The mere presence of the music or the skateboarding video may encourage participation amongst the users and conversation using a messaging or voice chat service.

FIG. **14** illustrates a method which may be performed by an interaction application **810**, present on an interaction data provider **850**. The interaction application **810** may perform functions similar to those described above which exist on user associated processing devices, that may additionally perform additional data retrieval functions. At step **1405**, the interaction application **810** may be continually collecting information to a user data store **880**. Information collection may comprise polling using routines **1404** and **1406** by continually searching the respective data sources in cloud data **170** and private data **190**.

In one embodiment, routines **1404** and **1406** continually search cloud based information and user data for possible trigger events and participating user interactions. At **1455**, stored information is searched for possible interactions amongst participating users. Checks can be made for common events, common interests, matching data appearing on different users calendars, and the like. When matches are found, an accelerator may be determined at **1460** and respective users, a subset of users or an entire group notified at **1465**. For example, two users who both attended the same college may both have an upcoming concert entered in their respective calendars. An accelerator may be created noting that the respective alums will both be at the same concert, and both users notified of this possible interaction. Similarly, routine **1406** scours cloud data for such interactions between participating users. If an accelerator is found at **1480**, the users can be notified of this potential for interaction. Accelerator information and matches can be returned to the user information data store at **1410** for future use.

Routine **1402** responds to search requests from client based interaction applications. Upon receiving a request **1415** from any one of the aforementioned methods via steps **1035**, **1160** or **1265**, interaction application **810** may first detect which participating users are within a given proximity (real or virtual) to the requesting user at **1417**. Proximity can be determined by user presence information, presence in the same game lobby, application or chat environment, or known geo-location information. In addition, based on the knowledge of the event detector and the trigger agent on the interaction application, the application may have knowledge of which users are present relative to each other at common events. At **1420** a search of the stored data **880** for accelerators amongst the target users identified by the request **1410** or which are present within the sphere of the participating user. If an accelerator is found, the results are returned at **1425**. If no accelerator is found and time is left, searching may continue at **1420** and contemporaneously at **1420**.

Simultaneously with steps **1420**, **1425**, and **1430**, at **1440**, the application may be continually search for accessible cloud based information. This may include searching data **170** and in addition, using key word searches of known user locations, interests and other accelerator data for information available on other data sources, such as web sites and

web logs. Information found at **1460** and **1420** is returned to the application at **1450**, and stored in the data store at **1410**.

FIGS. **15** and **16** illustrate an alternative embodiment of the present technology wherein a network based informational service is used to provide social accelerators to mobile device users.

FIG. **15** illustrates an exemplary system including an interaction data service provider **1550** including an interaction application **1590** having an accelerator selector **1515** and a proximity detector **1520**. Each device which can couple to the interaction data service provider **1550** includes an interaction application **1502***b*, **1502***c* a unique user identifier for the service **1504***b*, **1504***c* location information **1506***b*, **1506***c* personal user information **1512***b*, **1512***c* and one or more other applications **1516***b*, **1516***c* running on an associated processing device **1505***b*, **1505***c*.

A user device **1510***b* has associated therewith a specific user ID **1504***b* which is linked to unique personal information **1512***b* about the user of device **1510***b*. Any device seeking access to and accelerators from data provider **1550** must authenticate with user authentication service **1505**. The user ID is linked to a personal information stored in a social profile **1572**. Social profile **1572** may be provided by any of a number of social networking services, such as MySpace™, Foursquare™, Facebook® and similar services, or a social and gaming service such as Xbox Live®. Information from the social profile is synced with a user data store **1555** and the personal information **1512** of each respective user device **1510***b*, **1510***c*.

Information is retrieved from the social profile **1572** using an API connector **1545** and information in the connector which may serve as accelerator information is stored in user data **1555**. In one embodiment, social profile **1572** may provide a schematized interest information which can be parsed by the interaction application and used by the acceleration selector **1515** to create social accelerators for users **1511***b* and **1511***c*. Personal information from the social profile **1572** can be synchronized with personal information **1512***b*, **1512***c* for each user on the mobile devices by synchronization agent **1525**.

Interaction application **1510** may continuously receive location information from respective devices **1510***b* and **1510***c*. Interaction applications **1502***b* and **1502***c* may periodically provide location information **1506***b* and **1506***c* to the proximity detector **1520**, so that information data provider **1550** is aware of the location of all authenticated users.

Using the location information, acceleration selector can automatically provide information to users **1511***b*, and **1511***c* regarding other authenticated users having a real world proximity to them with social accelerators. In one embodiment, the social accelerators may comprise information from the static profile which matches one or more interests identified in the user's personal information and social profile. In this embodiment, specific requests from each interaction application **1502***b*, **1502***c* need not be required. Social accelerators may be generated automatically by interaction application **1590** when the proximity detector finds a proximity relationship between authenticated users.

A web search connector **1560** may be utilized to initiate query requests to one or more World Wide Web search engines, such as Bing, Google, Yahoo and the like, and return additional information for use in creating social accelerators by accelerator selector **1515**.

FIG. **16** illustrates a method performed by the interaction application **1510**. Users are authenticated at **1605**. As part of the authentication process, users may be required to associate their User ID with authentication credentials for their social profile, allowing the information provider **1550** to access information in the social profile. For each authenticated user at **1607**, using an API at **1610**, the social profile of authenticated users is accessed, and parsed at **1616**. At **1620**, using the location information in each device (for example devices **1510***b*, **1510***c*), other authenticated users who are near in proximity to the authenticated user are determined. Proximity may be defined by the user or by the information service provider **1550**. For each near user in proximity at **1630**, the near user's social profile information is compared with the authenticated users profile information at **1635**. If a match is found at **1640**, optionally at **1650**, key word searching using one or more search engines may be performed to retrieve additional data based on the matched in the profile. If no matches between the profile are found, basic information about the near user may be gathered **1645** and, optionally, step **1655** performed.

Once all information has been retrieved, matching, search information and/or basic information is ranked and presented to the authenticated user at **1660**. The method continues for each user in the proximity at **1665** and each authorized user **1670**. In one example, two users in proximity may have no social matching information and no key word searching is performed. In this instance, an authenticated user will be provided with basic information such as a username and "public" information which any near user has agreed to publish without restriction. In another example, matches between the social profiles may indicate common employers, schools, events or specified interests. Such information may be presented in a manner similar to FIG. **7**D.

FIG. **17** illustrates a system for implementing the present technology using one or more facial recognition systems as triggers. In FIG. **17**, the interaction data provider may comprise any one or more of the systems illustrated in FIGS. **6**A, **6**B and **8**. In the system **850***a* illustrated in FIG. **17**, a user identification engine **1745** is provided. Identification engine **1745** received trigger events from the trigger agent **830**, for example, which may comprise image data of a field of view including users **1722** and **1724**. The identification engine **1745** uses image data provided by one or more of a common imaging device **1720** or one or more user imaging devices **1720***a*, **1720***b* which may be associated with user processing devices **1740** and **1750** to capture users within the presence of the respective devices. A common imaging device **1720** may be provided by a participating user at a party or in a common establishment such as a restaurant or coffee house. Users **1722** or **1724** may use cameras **1720***a*, **1720***b* on respective processing devices **1740**, **1755** to scan a field of view when the user enters a room.

User identification module **1745** uses stored user data, such as user contact data, social networking information (including, for example, a user profile and profile picture) to identify potential target users in the scene and process social accelerators in accordance with any one or more of the methods discussed herein.

Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above. Rather, the specific features and acts described above are disclosed as example forms of implementing the claims.

We claim:

1. A system for facilitating a social interaction between a first user and a second user, the system comprising:

at least one processor; and

memory in communication with the at least one processor, the memory having computer-readable instructions stored thereupon that, when executed by the at least one processor, cause the system to:

receive user information that includes at least:

first user information that corresponds to the first user, and

second user information that corresponds to the second user;

identify, based on a comparison of the first user information to the second user information, an interaction trigger that indicates that the social interaction is impending between the first user and the second user;

determine a time associated with the social interaction that is associated with the interaction trigger identified based on the comparison;

prior to the time determined in association with the social interaction, cause initiation of a search of the user information to identify relevant social accelerators regarding the second user; and

cause a client device, that is associated with the first user, to display the relevant social accelerators identified based on the search during a particular time period with respect to the time determined in association with the social interaction.

2. The system of claim **1**, wherein the interaction trigger corresponds to the second user calling the first user on the client device.

3. The system of claim **1**, wherein the computer-readable instructions further cause the system to:

determine an amount of time that remains until the social interaction is to occur; and

in response to a threshold amount of additional time remaining before the social interaction is to occur, cause initiation of an expanded search of the user information, wherein the expanded search includes at least some public cloud-based information about the second user.

4. The system of claim **1**, wherein the relevant social accelerators include at least one common interest that the first user and the second user share in common.

5. The system of claim **1**, wherein the social interaction comprises at least one of:

a meeting between the first user and the second user, or

a phone call between the first user and the second user.

6. The system of claim **1**, wherein the second user information includes at least one of:

personal information that is published by the second user as public cloud-based information; or

personal information about the second user previously known to the first user.

7. The system of claim **1**, wherein the particular time period begins prior to the social interaction.

8. A system for facilitating a social interaction between a participating user and a target user, the system comprising:

at least one processor; and

memory in communication with the at least one processor, the memory having computer-readable instructions stored thereupon that, when executed by the at least one processor, cause the system to:

receive user information that includes:

target user information about the target user, and

participating user information about the participating user;

identify, based on a comparison of the target user information to the participating user information, an interaction trigger that indicates that the social interaction is impending between the participating user and the target user;

in response to identifying the interaction trigger, determine a relevant time period associated with the social interaction identified based on the comparison;

cause initiation of a search of the target user information to identify social accelerators regarding the target user; and

cause a client device, that is associated with the participating user, to display the social accelerators during the relevant time period associated with the social interaction to assist the participating user with socially interacting with the target user.

9. The system of claim **8**, wherein the computer-readable instructions further cause the system to:

determine a context of the social interaction based on the interaction trigger; and

generate search criteria for searching the target user information based on the context of the social interaction.

10. The system of claim **8**, wherein the computer-readable instructions further cause the system to:

determine an amount of time that remains until the social interaction is to occur; and

in response to a threshold amount of additional time remaining before the social interaction is to occur, cause an expanded search to be performed using public cloud-based information that corresponds to the target user.

11. The system of claim **8**, wherein the computer-readable instructions further cause the system to:

generate image data corresponding to a field of view of an imaging device of the client device; and

initiate a facial recognition analysis of the image data to identify the target user, wherein the interaction trigger is based at least in part on the target user being identified from the image data.

12. The system of claim **8**, wherein the interaction trigger corresponds to the participating user being within a threshold proximity to the target user at a pre-scheduled social event.

13. The system of claim **8**, wherein the interaction trigger corresponds to the target user calling the participating user on the client device.

14. The system of claim **13**, wherein the social accelerators are displayed concurrently with an indication of the target user is currently calling the participating user on the mobile device.

15. A system for facilitating a social interaction between a participating user and a target user, the system comprising:

at least one processor; and

at least one memory in communication with the at least one processor, the at least one memory having computer-readable instructions stored thereupon that, when executed by the at least one processor, cause the at least one processor to:

receive user information that includes at least:

participating user information about the participating user, and

target user information about the target user;

determine, based on a comparison of the participating user information to the target user information, an interaction trigger that indicates that an upcoming

event results in a probability of the social interaction occurring between the participating user and the target user;

analyze the user information to identify a social accelerator for facilitating the social interaction between the participating user and the target user, the social accelerator indicating at least one common interest that the participating user and the target user share in common;

determine a commencement time at which the upcoming event is scheduled to begin; and

prior to the commencement time, cause a client device associated with the participating user to display the social accelerator.

16. The system of claim **15**, wherein the user information includes personal information that is published about the target user by the target user.

17. The system of claim **15**, wherein the user information includes private personal information made available by the target user for use in identifying the social accelerator.

18. The system of claim **15**, wherein the instructions further cause the at least one processor to:

determine an accelerator selection case based on a context of a social interaction; and

select, based on the accelerator selection case, the social accelerator to at least one of: avoid an awkward interaction between the participating user and the target user; create an interest match between the participating user and the target user; or catalyze discussion amongst a group of users including the participating user and the target user.

19. The system of claim **15**, wherein the social interaction comprises at least one of:

a meeting between the participating user and the target user,

a pre-arranged event between the participating user and the target user;

a spontaneous event between the participating user and the target user; or

a phone call between the participating user and the target user.

20. The system of claim **15**, wherein the at least one common interest includes at least one of common or related: social relationships, expertise, historical events, or current events.

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